Design and Development of a Generic Architecture

for

APPAREL MANUFACTURING ARCHITECTURE
[Version 1.5]

Volume III: The Information Model

Research Sponsored by:

U.S. Defense Logistics Agency

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13. ABSTRACT *(Maximum 200 words)*

Research has been carried out to design and develop a generic architecture for an apparel enterprise that can serve as a blueprint for a computer-integrated apparel enterprise (CIAE). The Apparel Manufacturing Architecture (AMA) -- the first comprehensive architecture for manufacturing -- has been developed and validated in close collaboration with the apparel industry. AMA consists of a set of models the core of which is the *information* model which defines the schema of the shared information base for an apparel enterprise. The *function* model component of the architecture specifies how the activities carried out in an apparel manufacturing enterprise interact with each other through the shared information base. The third component of AMA, the *dynamics* model, describes how the interactions among the enterprise activities take place over time. The Recruit Induction Center Architecture (RICA) models the uniform distribution process at the Recruit Induction Center (RIC).

Volume III documents the Information model.

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PREFACE

The Apparel Manufacturing Architecture (AMA) is a comprehensive set of specifications for a Computer-Integrated Apparel Enterprise. The research on the development of AMA began at Georgia Tech in July 1988; it is being funded by the US Defense Logistics Agency. Oxford Slacks in Monroe, Georgia, was the first industry partner actively collaborating in the initial development activities. Subsequently, several member companies of the American Apparel Manufacturers Association (AAMA) participated in reviewing and enhancing the draft version of AMA. In October 1992, Version 1.0 of AMA was released in two volumes; the first contained the Function and Dynamics Models while the second contained the Information Model.

To test and validate AMA in the real-world, two plant implementations were successfully carried out with the active collaboration of Dowling Textiles of McDonough, Georgia, and Terry Manufacturing of Roanoke, Alabama. Just as continued maintenance, updating and support are essential for any acquired technology to have a long and meaningful impact, AMA has been reviewed regularly and opportunities for enhancing it identified. To formalize this enhancement process, a two-day Workshop was convened in April 1994 in which experts from industry, academia, research laboratories and government agencies participated. At this Workshop, AMA was reviewed in-depth and areas for enhancing it were actively discussed. The results from the Workshop have been used to create this version of AMA, Version 1.5.

AMA [Version 1.5] is being released in three volumes: Volume I: AMA Primer; Volume II: The Function Model; and Volume III: The Information Model.

Volume I introduces the modeling techniques used in developing AMA and provides an overview of AMA. It is intended to serve as a guide to understand the Function and Information Models in Volumes II and III, respectively. Volume II contains the Function model along with a glossary of terms used in the model. Likewise, Volume III contains the Information model along with the respective entity definitions in AMA. In addition to these, it contains a table of all the entities and their attributes. For each attribute, its SQL "attribute type", e.g., Character, Numeric or Date, is defined.

As with any such major research effort, the active participation of several individuals and organizations led to this architecture and their contributions are thankfully acknowledged (please see Acknowledgments for complete listing). Any comments on AMA including suggestions for enhancements are welcome.

Sundaresan Jayaraman
Atlanta, Georgia

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Research Sponsors

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Ms. Julie Tsao, Defense Logistics Agency
Ms. Helen Kerlin, Defense Logistics Agency

Industry Partners

Oxford Slacks, Monroe, Georgia
Dowling Textiles, McDonough Georgia
Terry Manufacturing, Roanoke, Alabama
American Apparel Manufacturers Association

Workshop Participants

Mr. John Adams, Georgia Tech
Mr. John Baumgartner, Oxford Industries
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Mr. George Murphy, Warren Featherbone
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The Information Model

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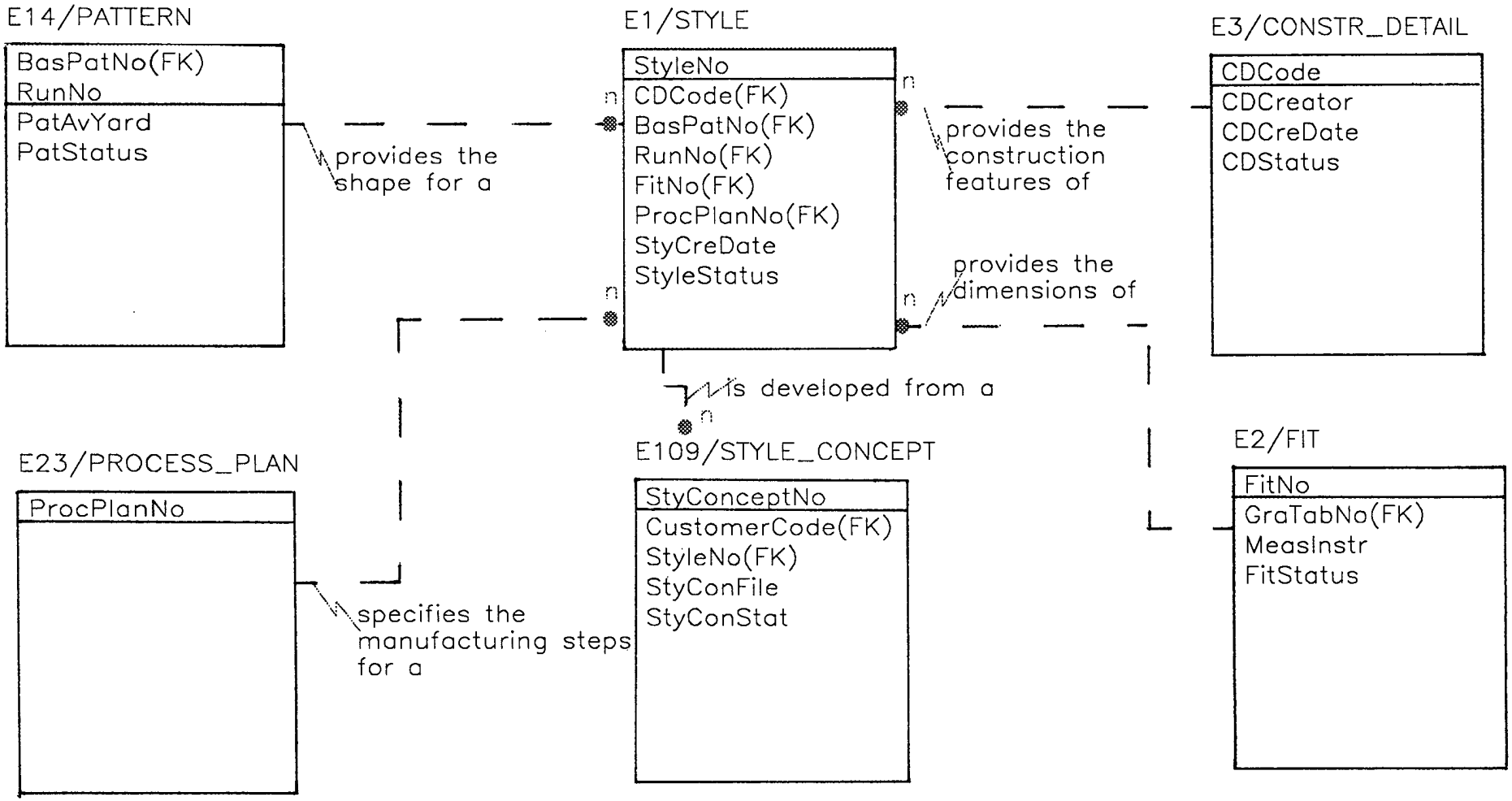

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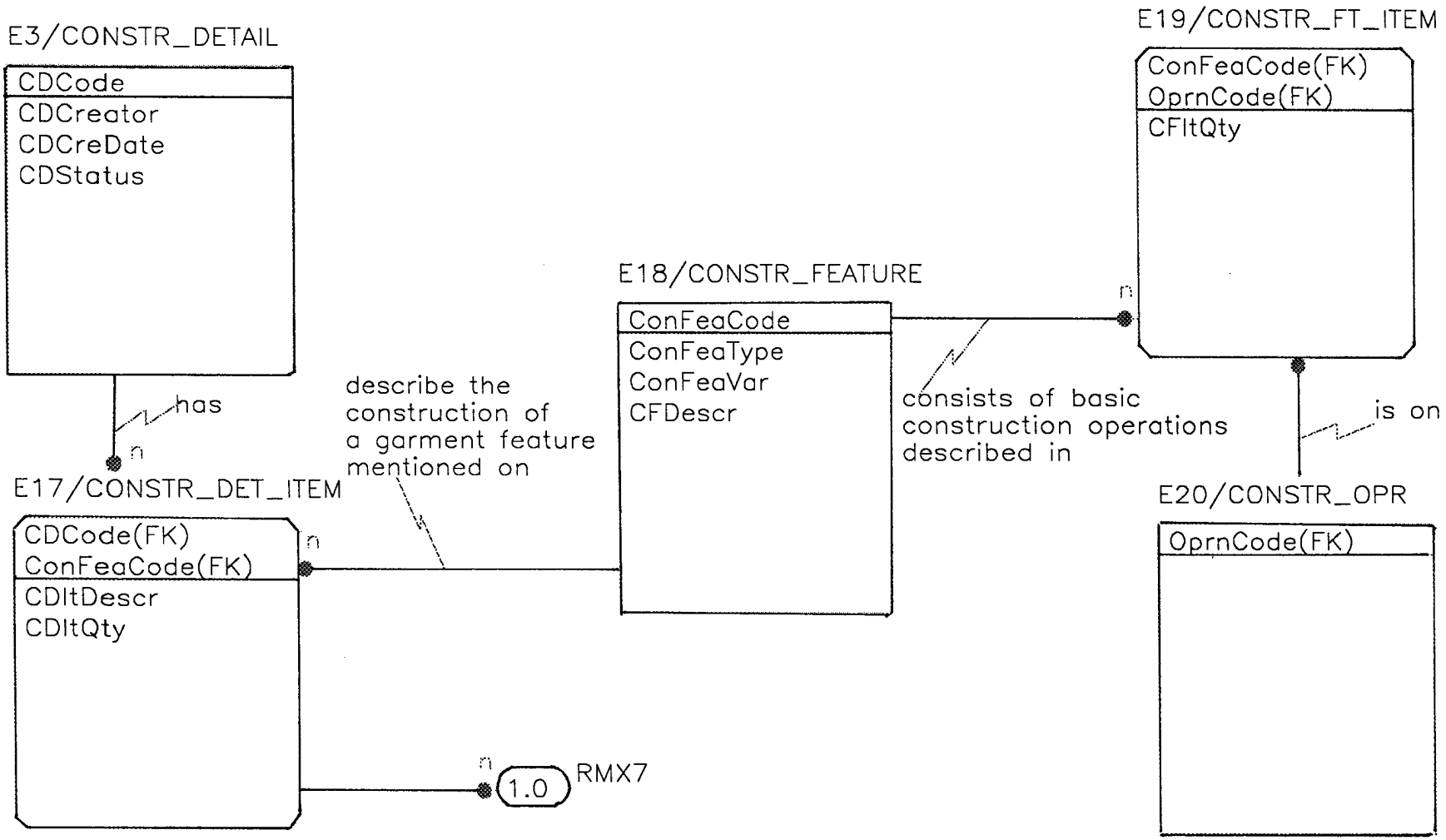

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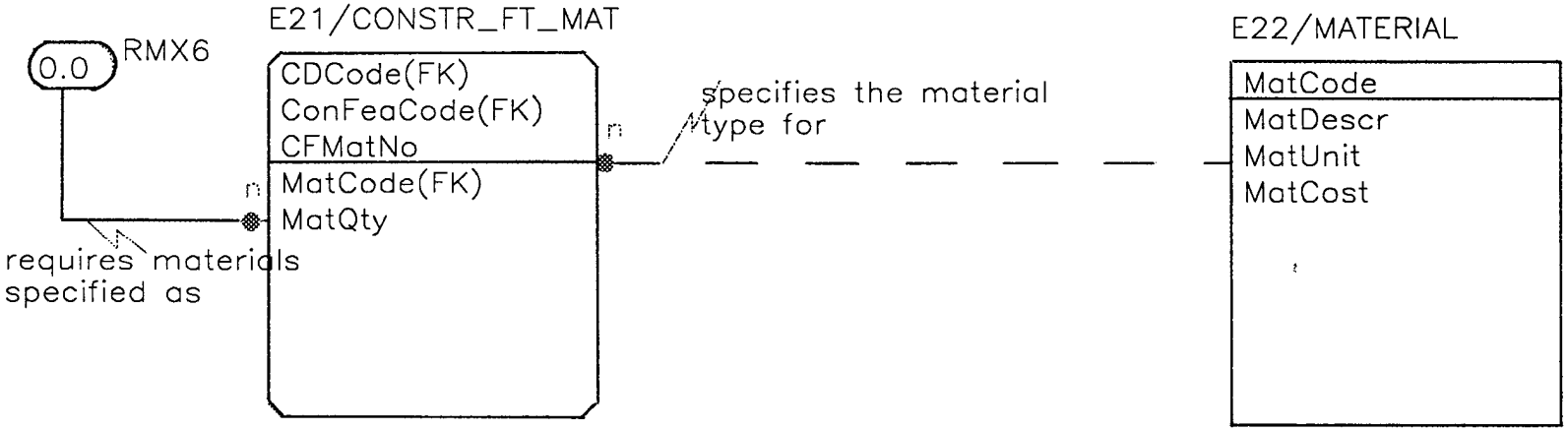

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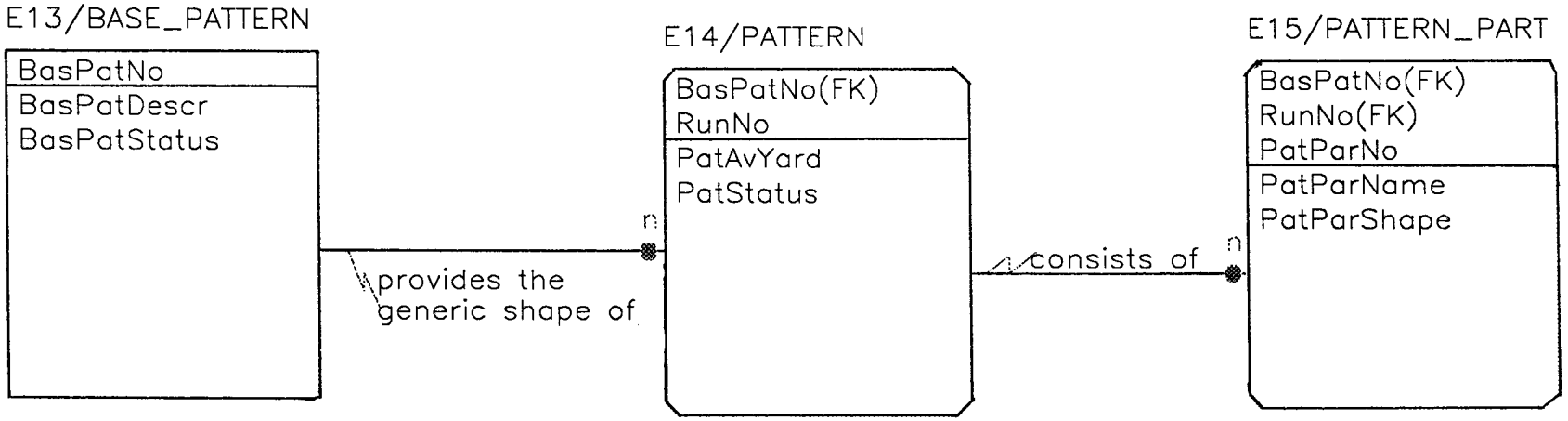

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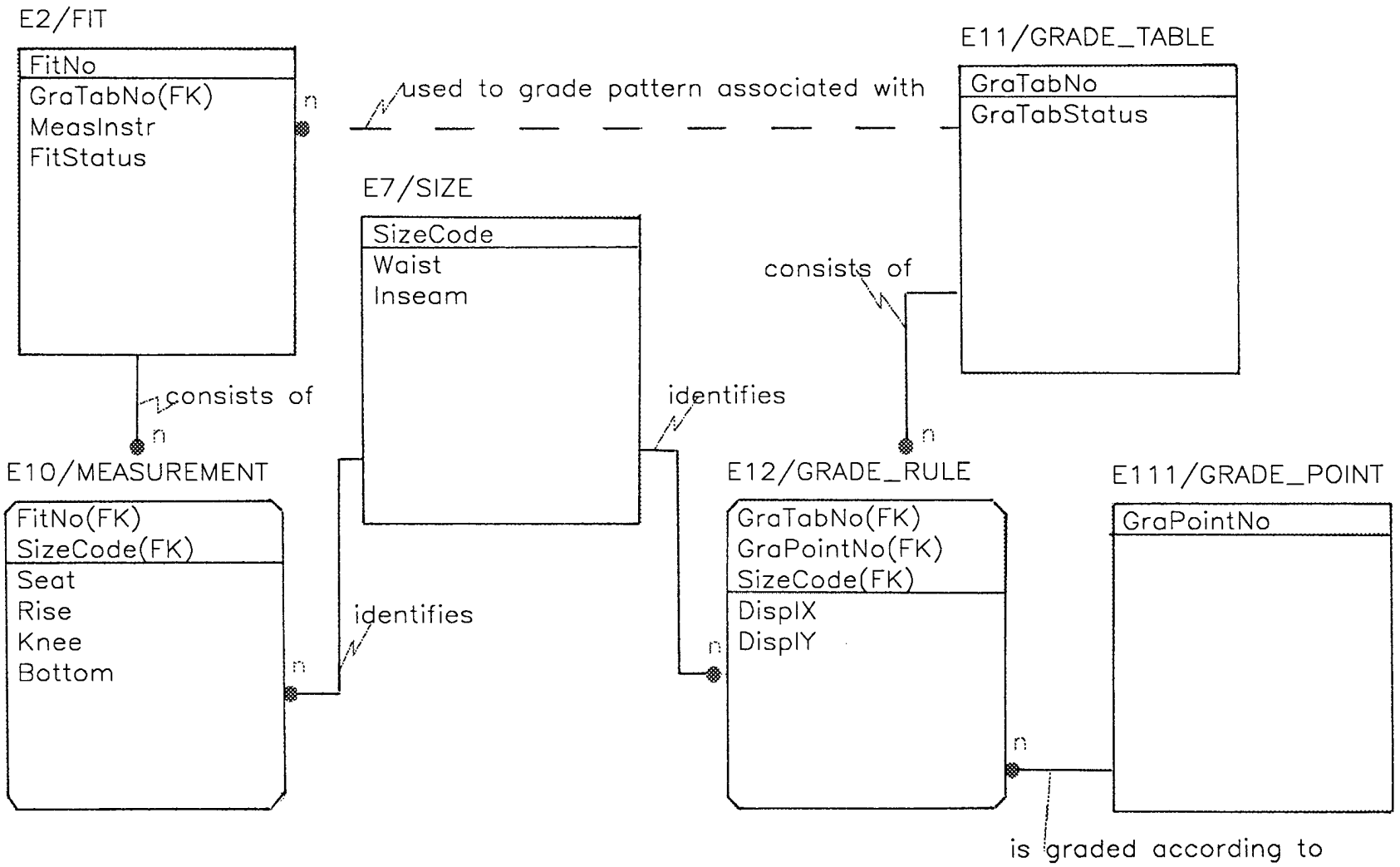

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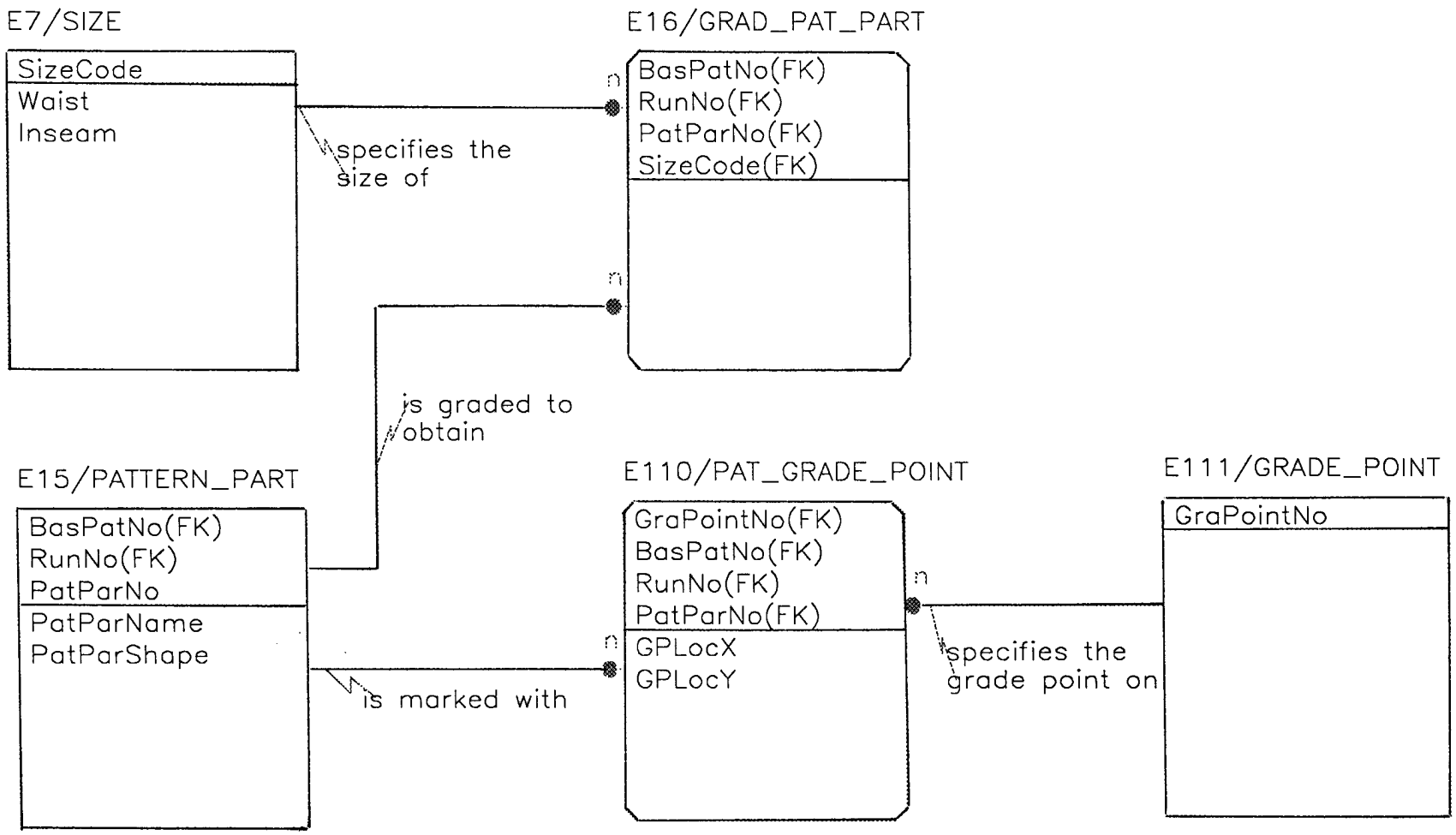

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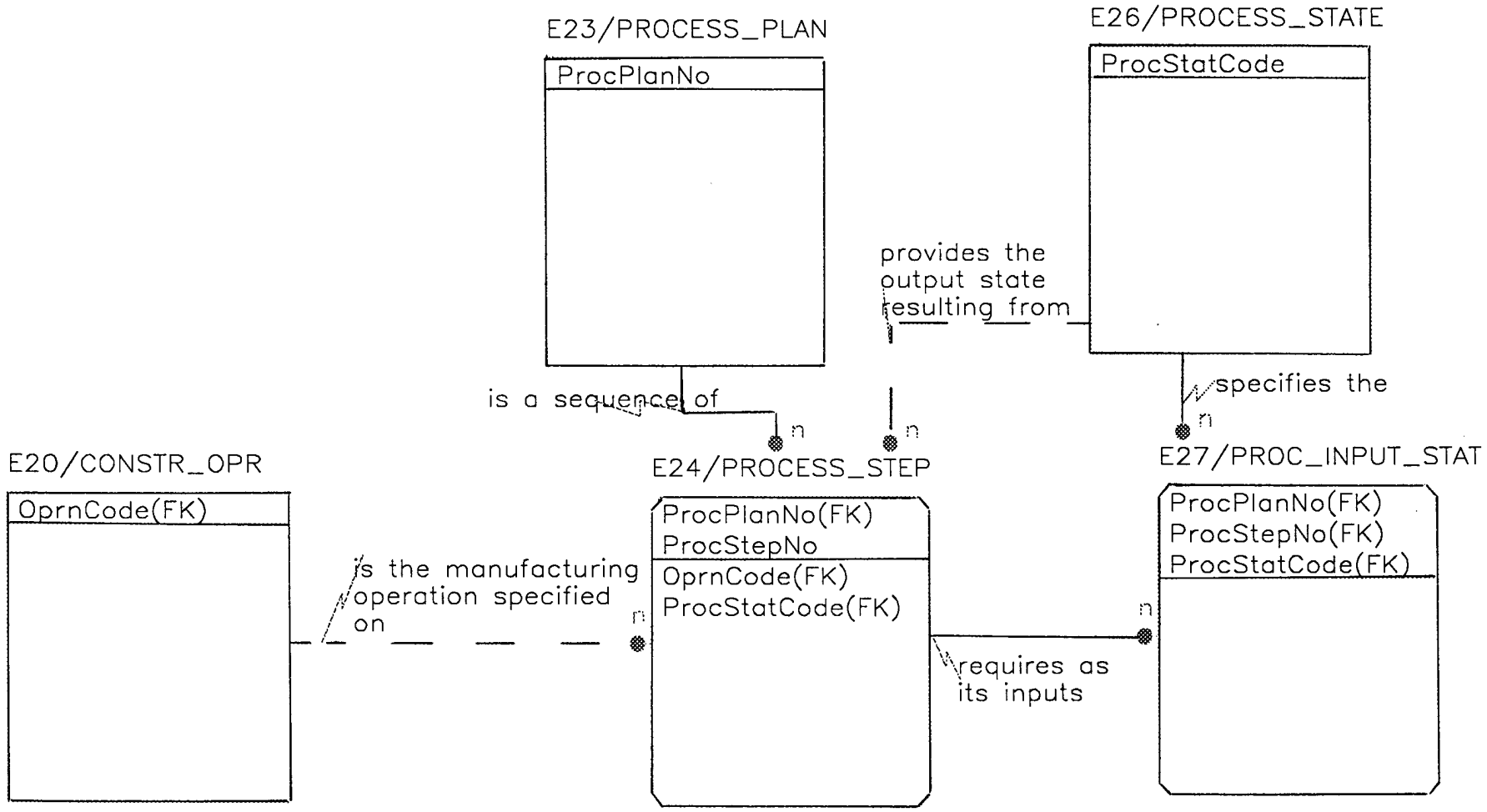

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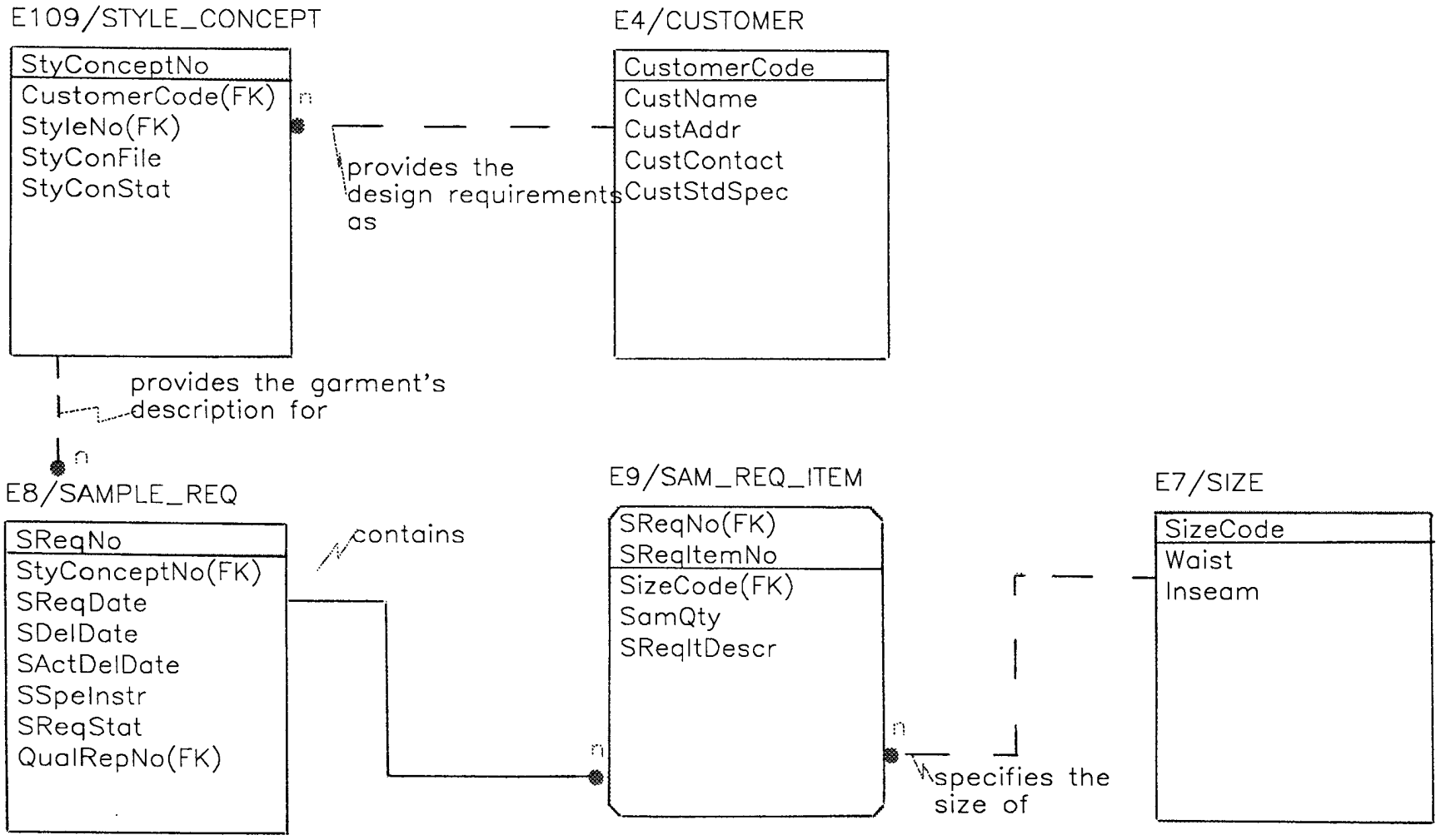

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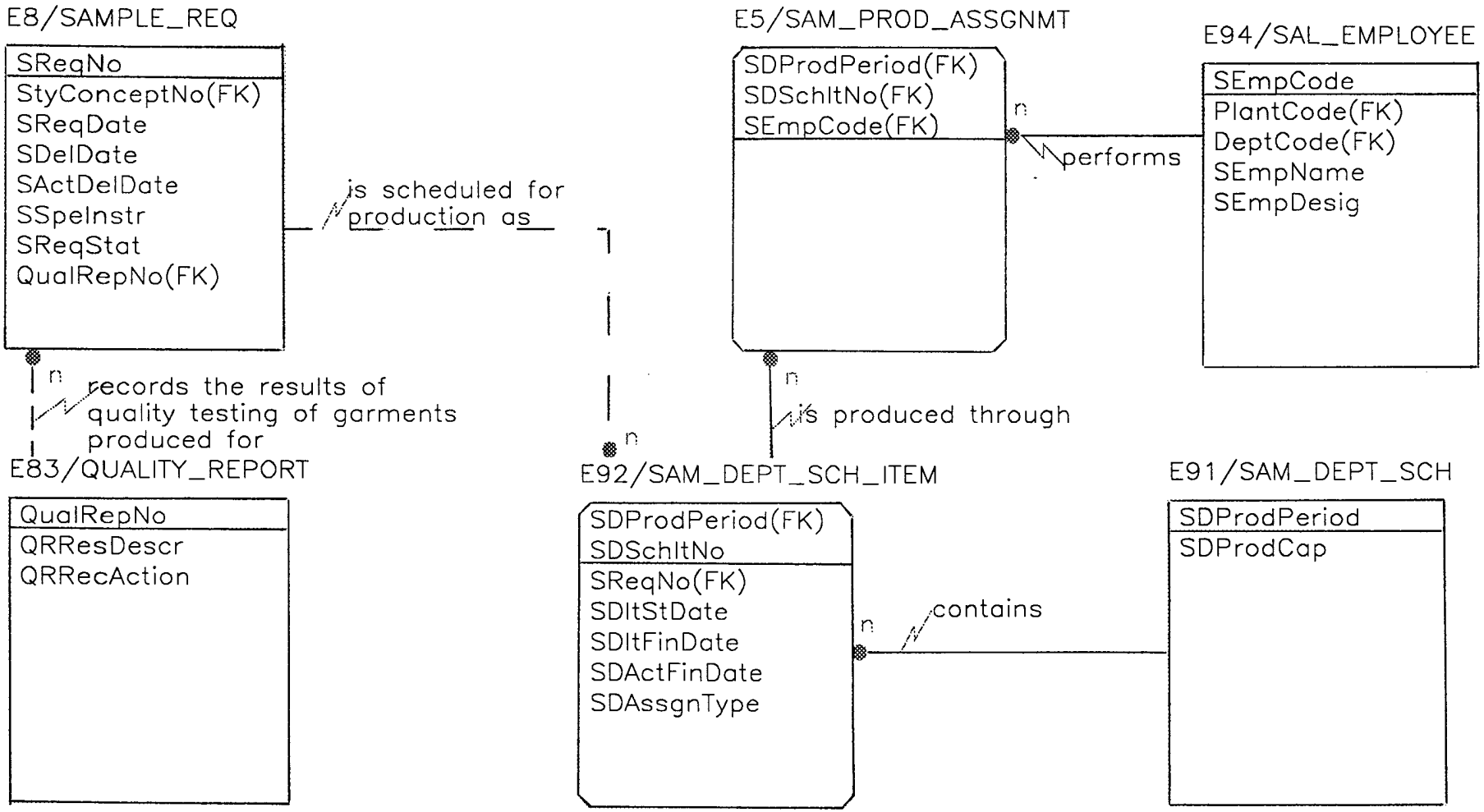

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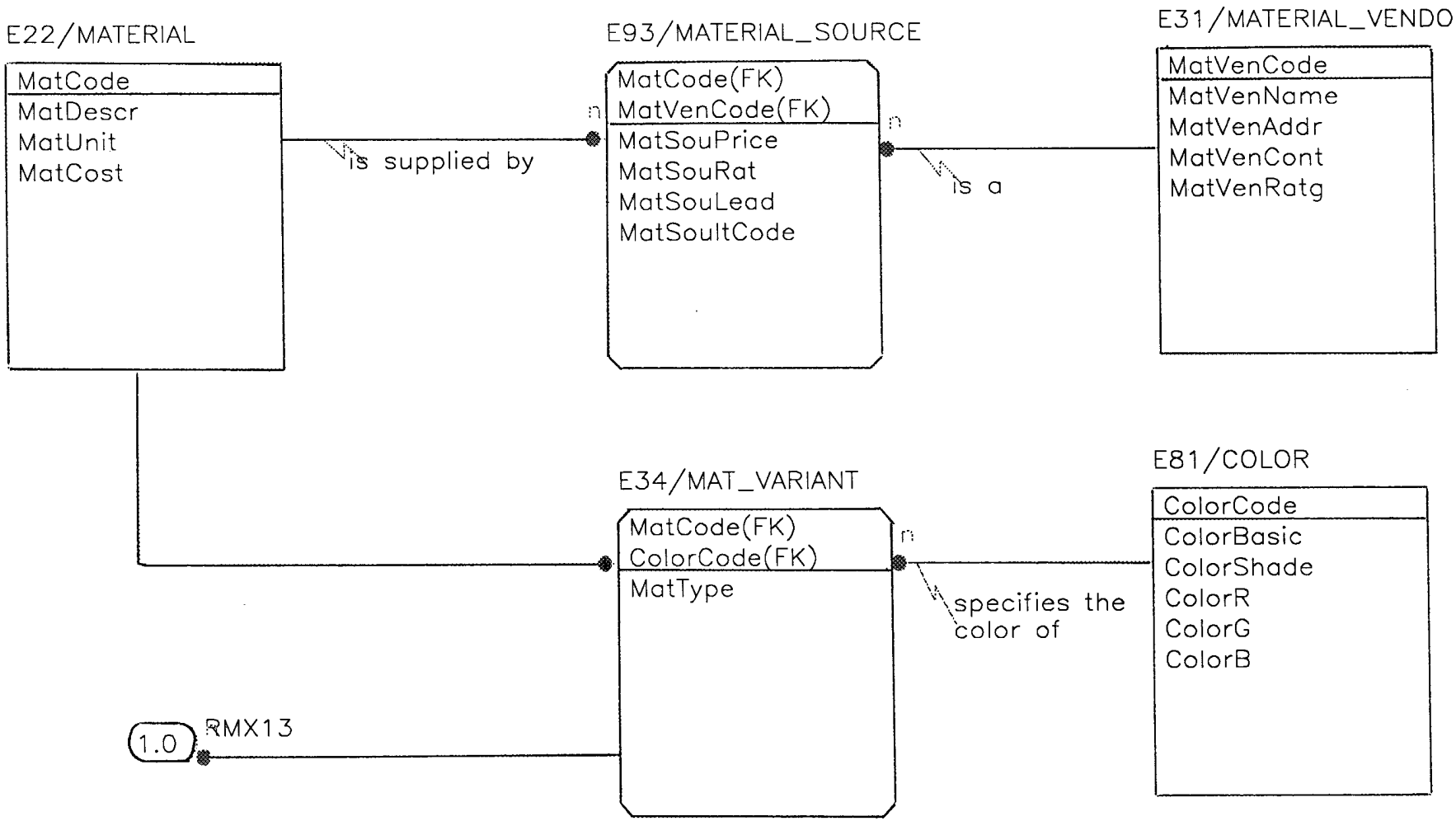

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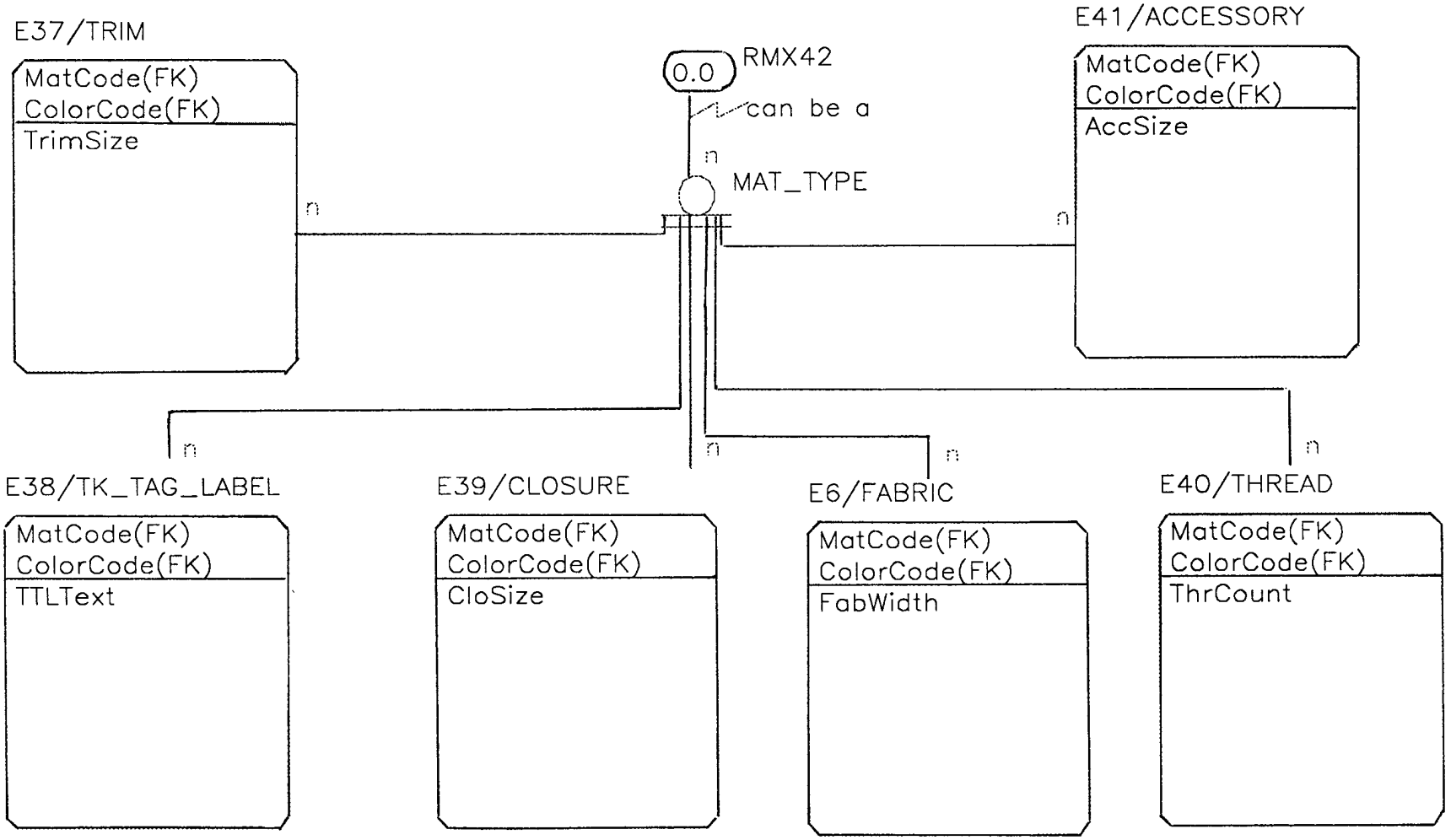

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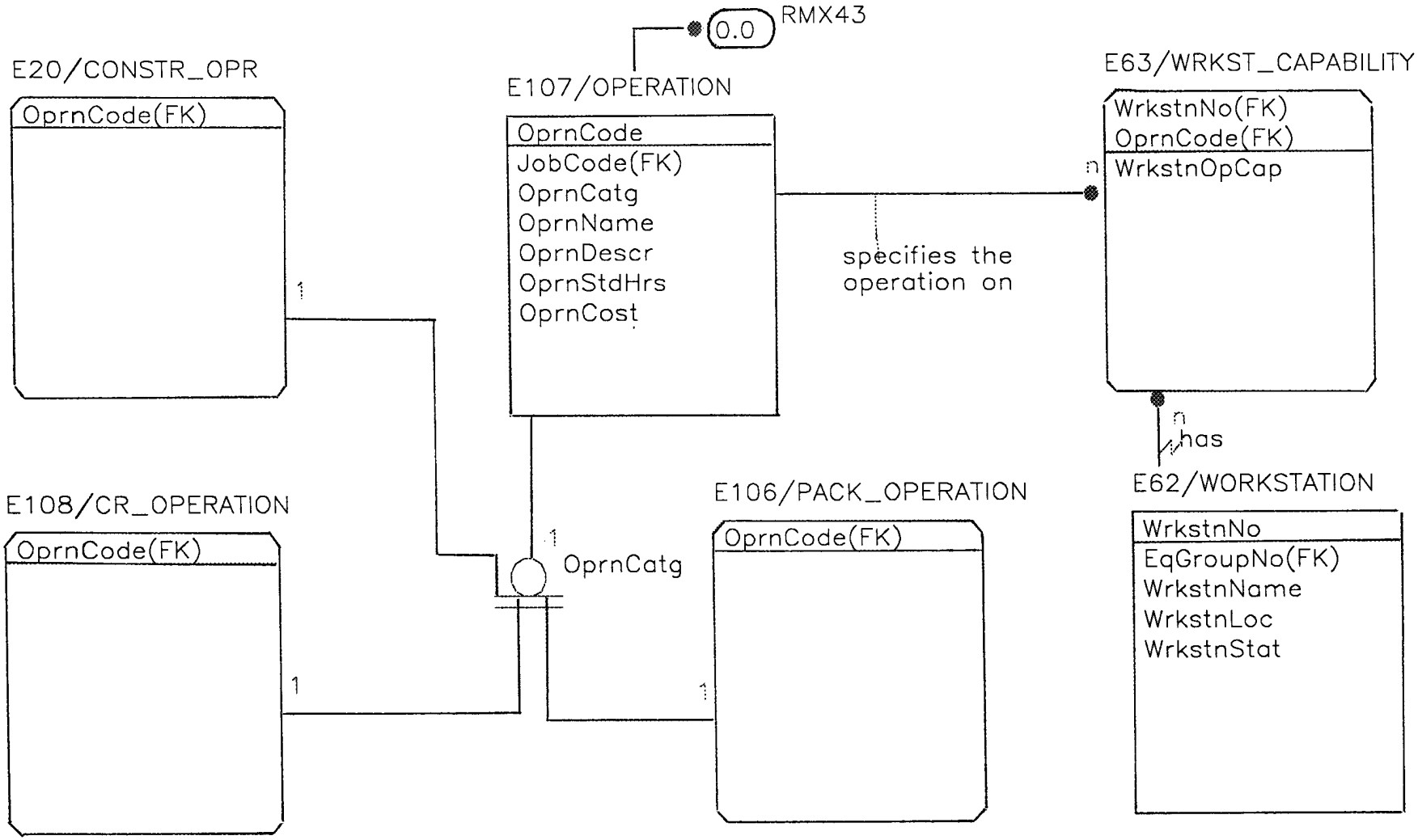

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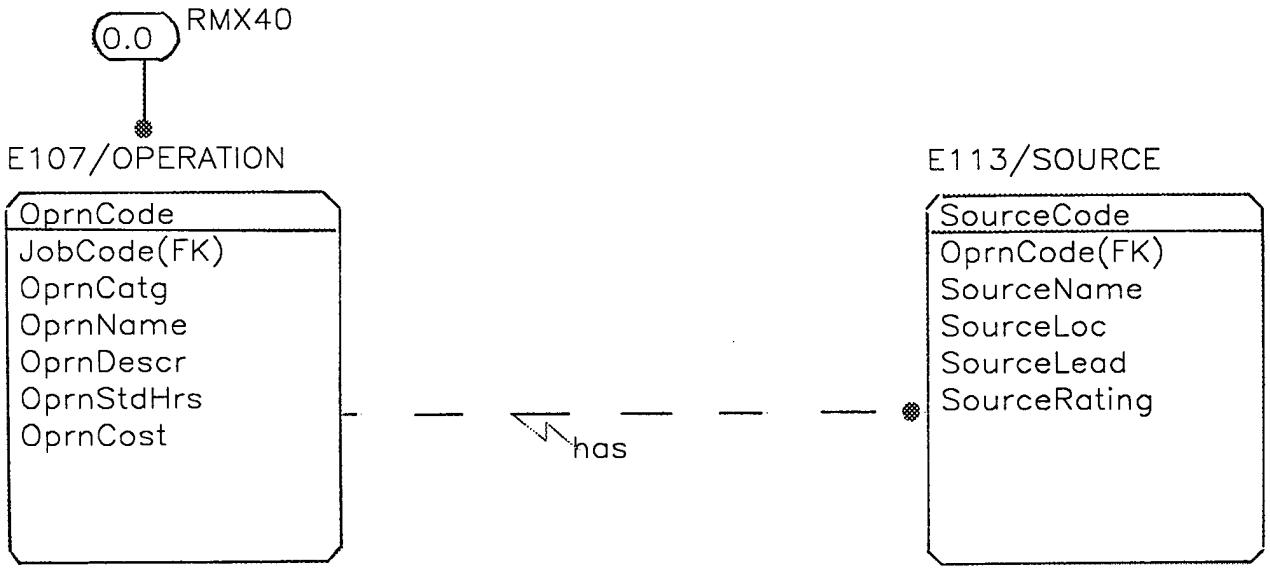

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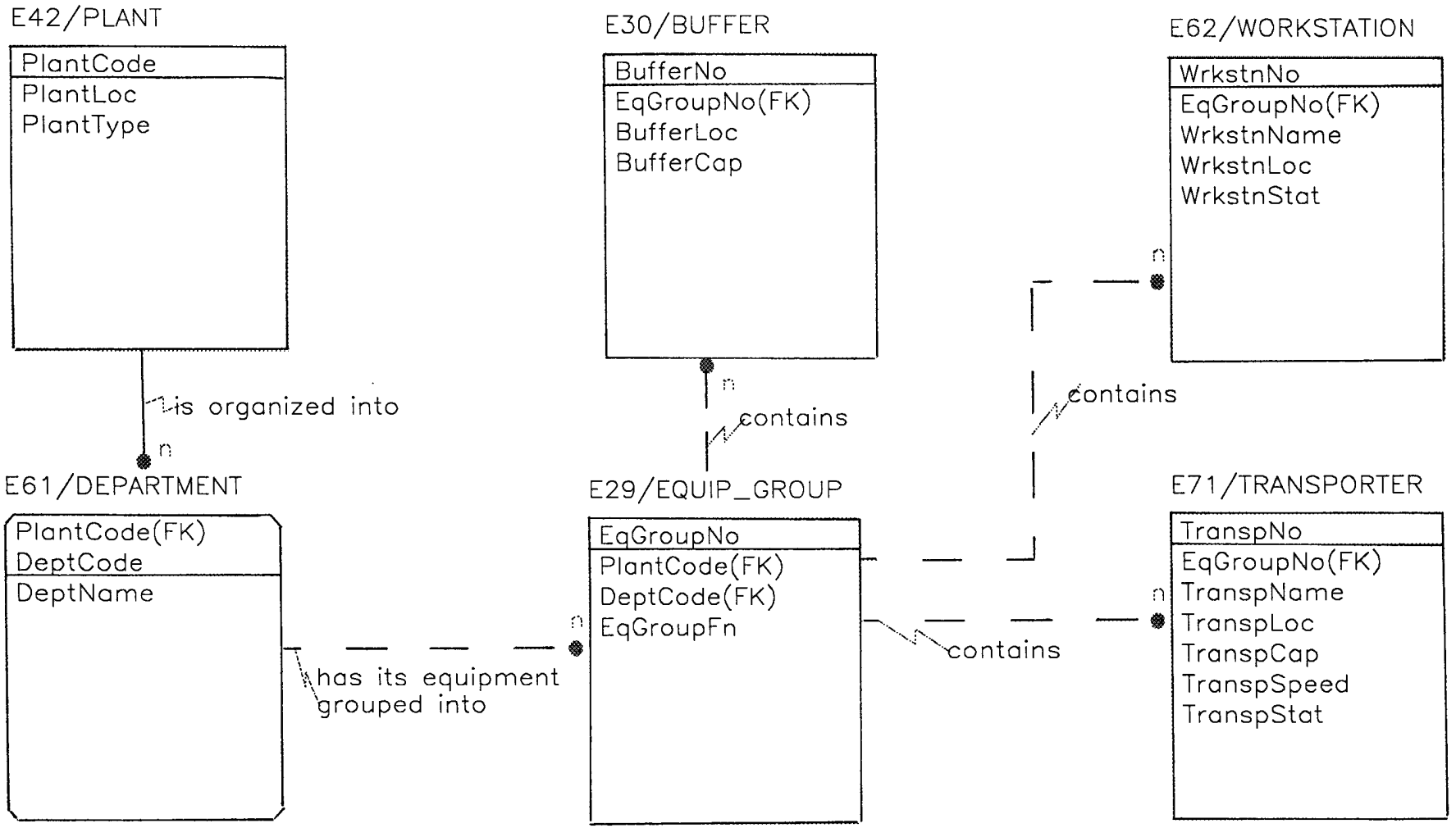

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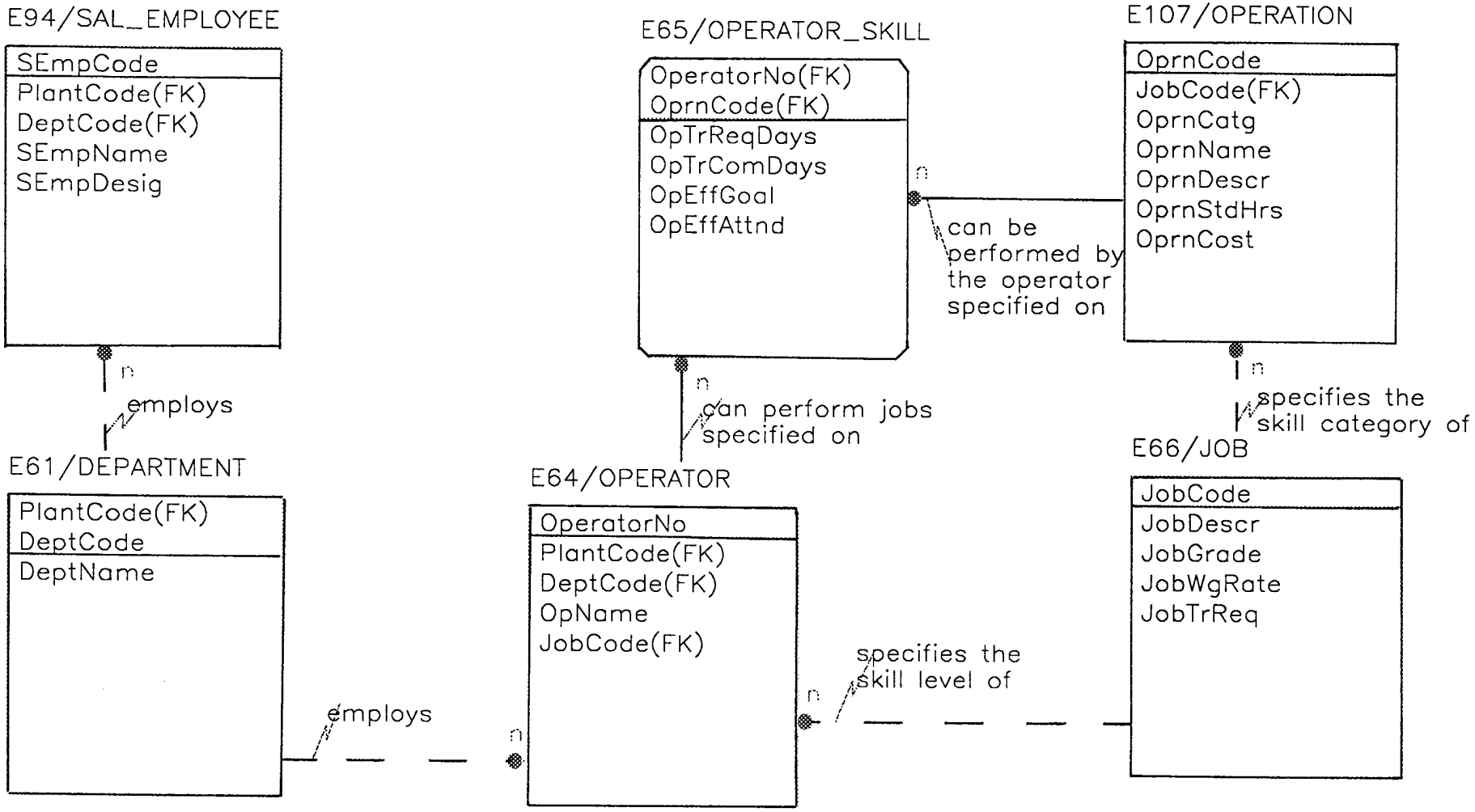

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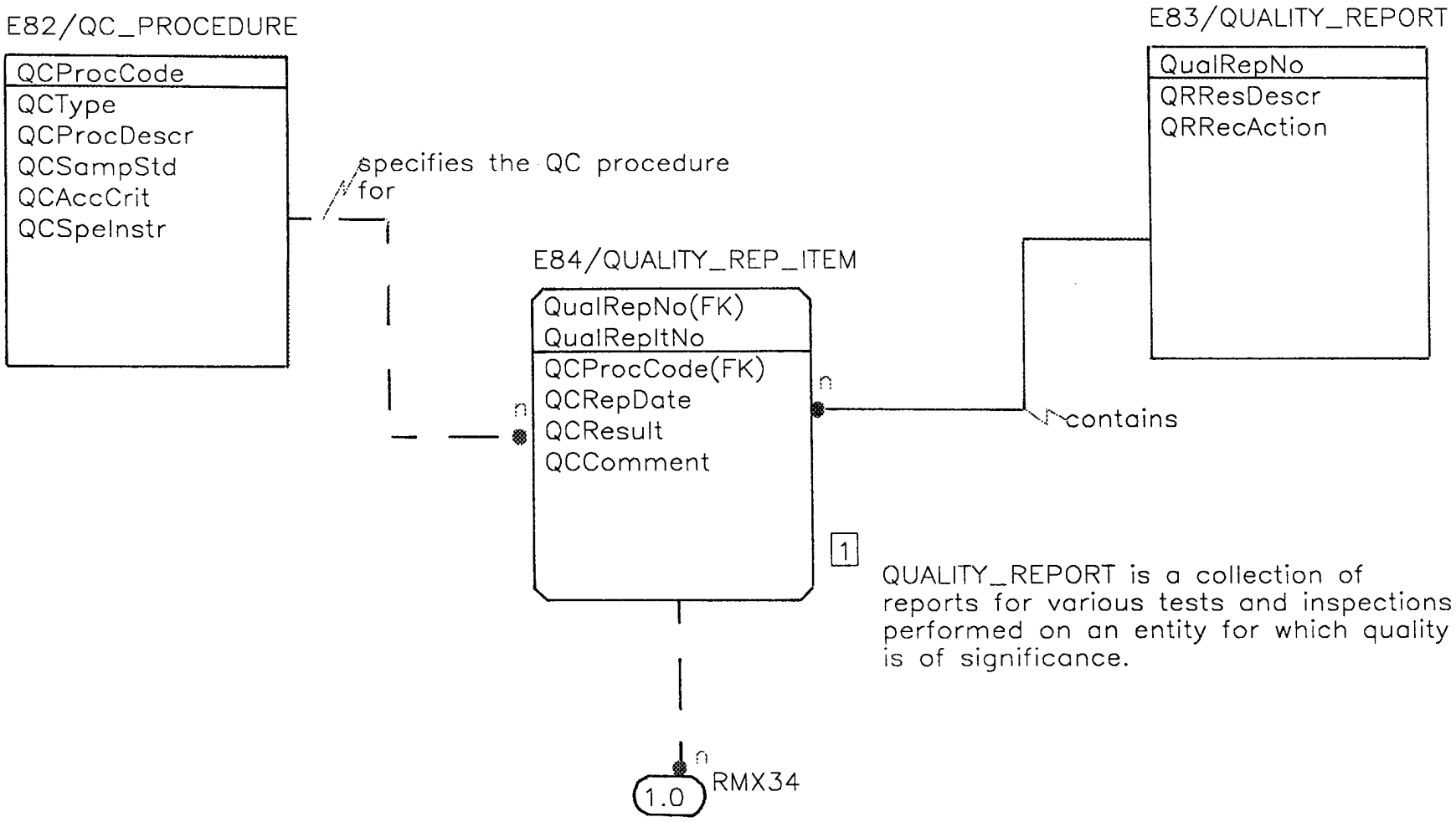

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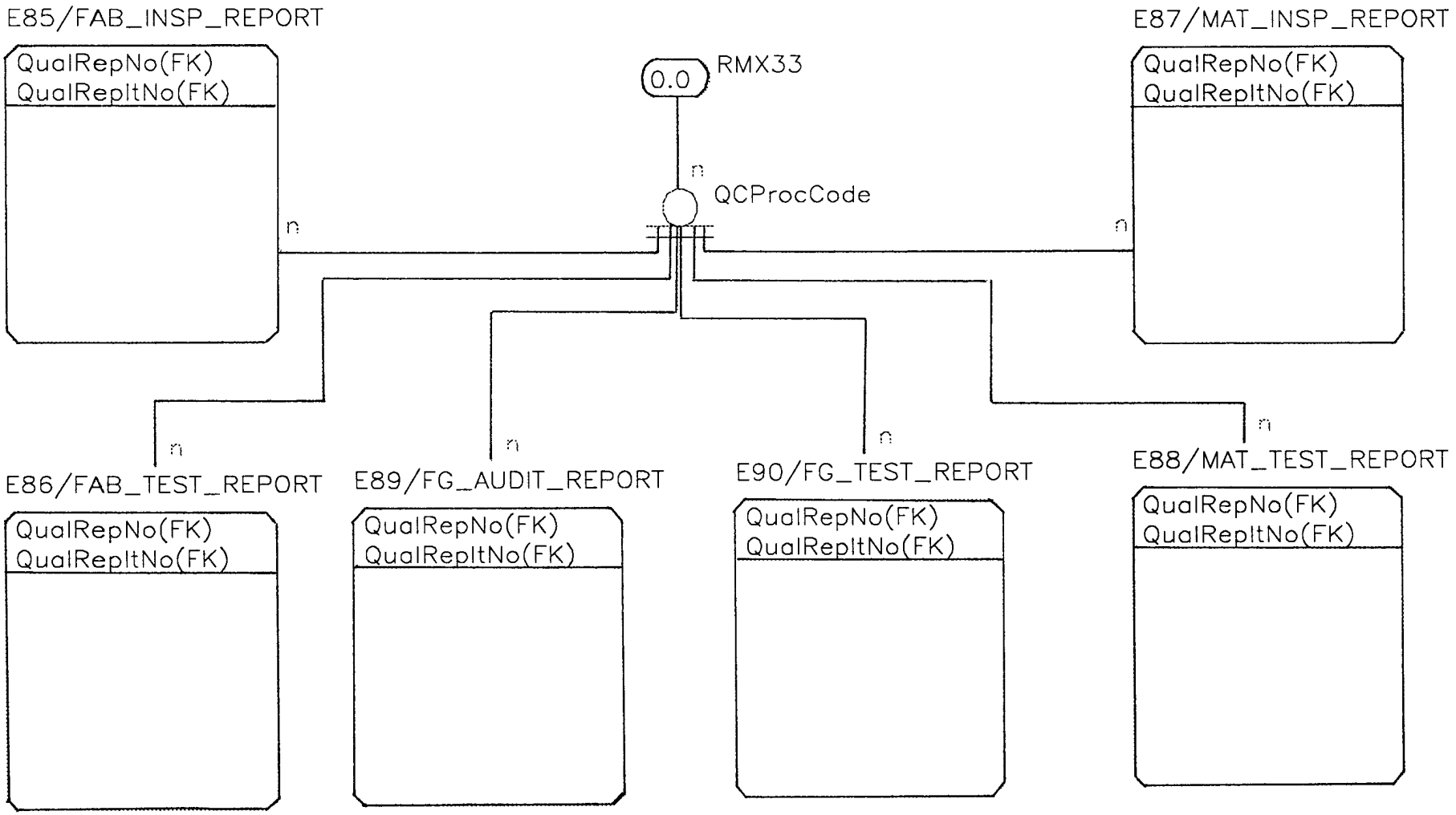

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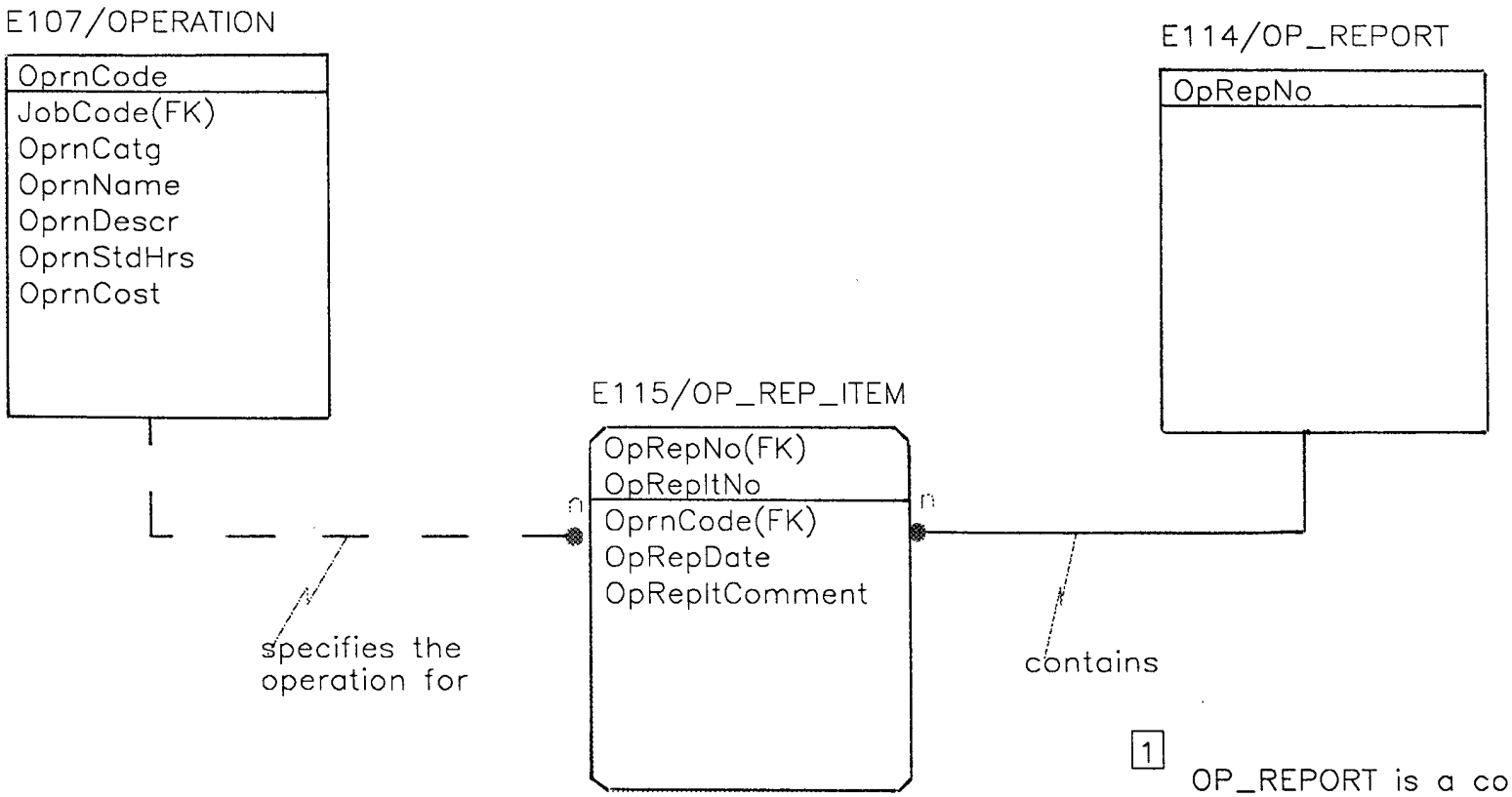

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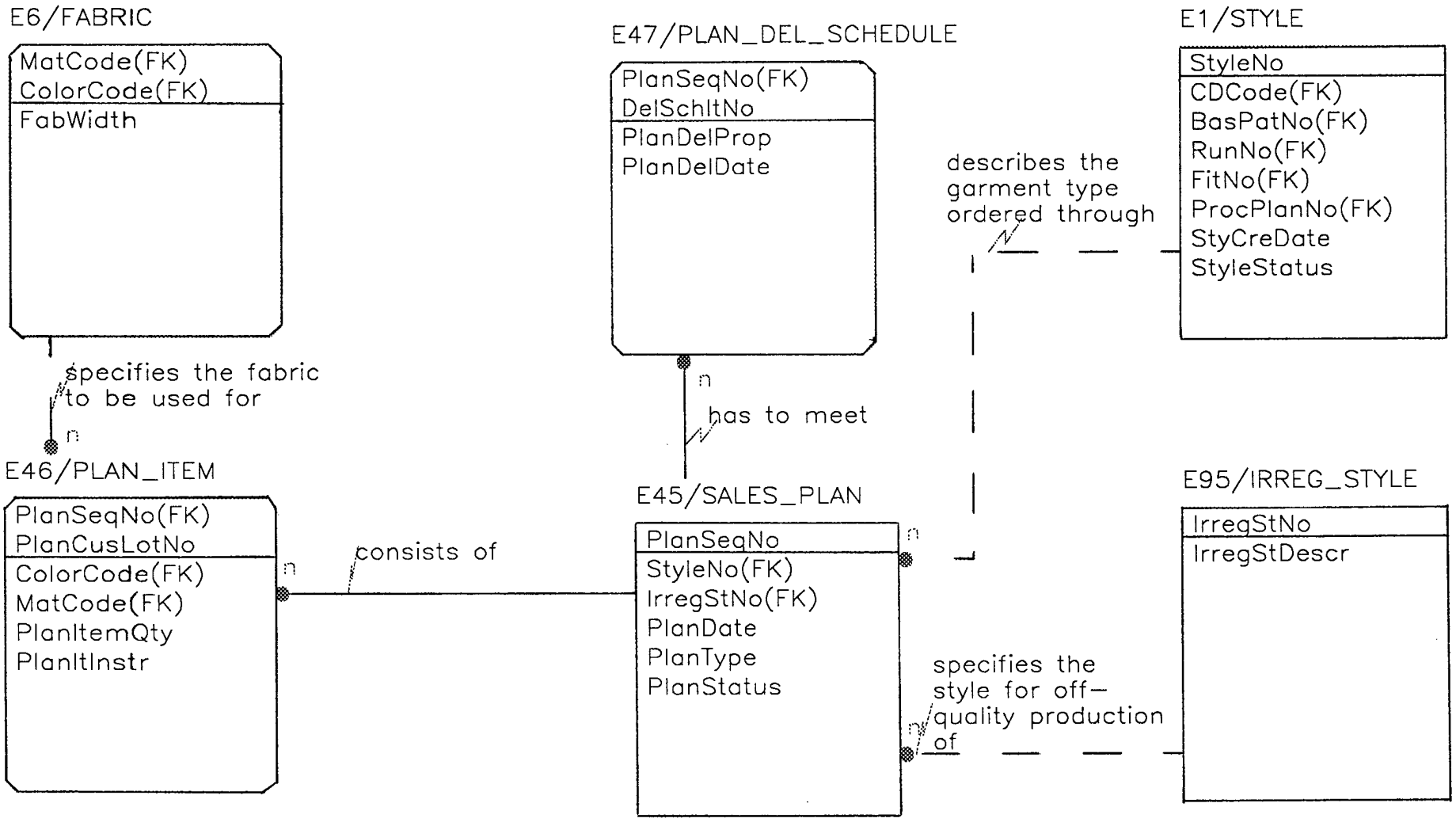

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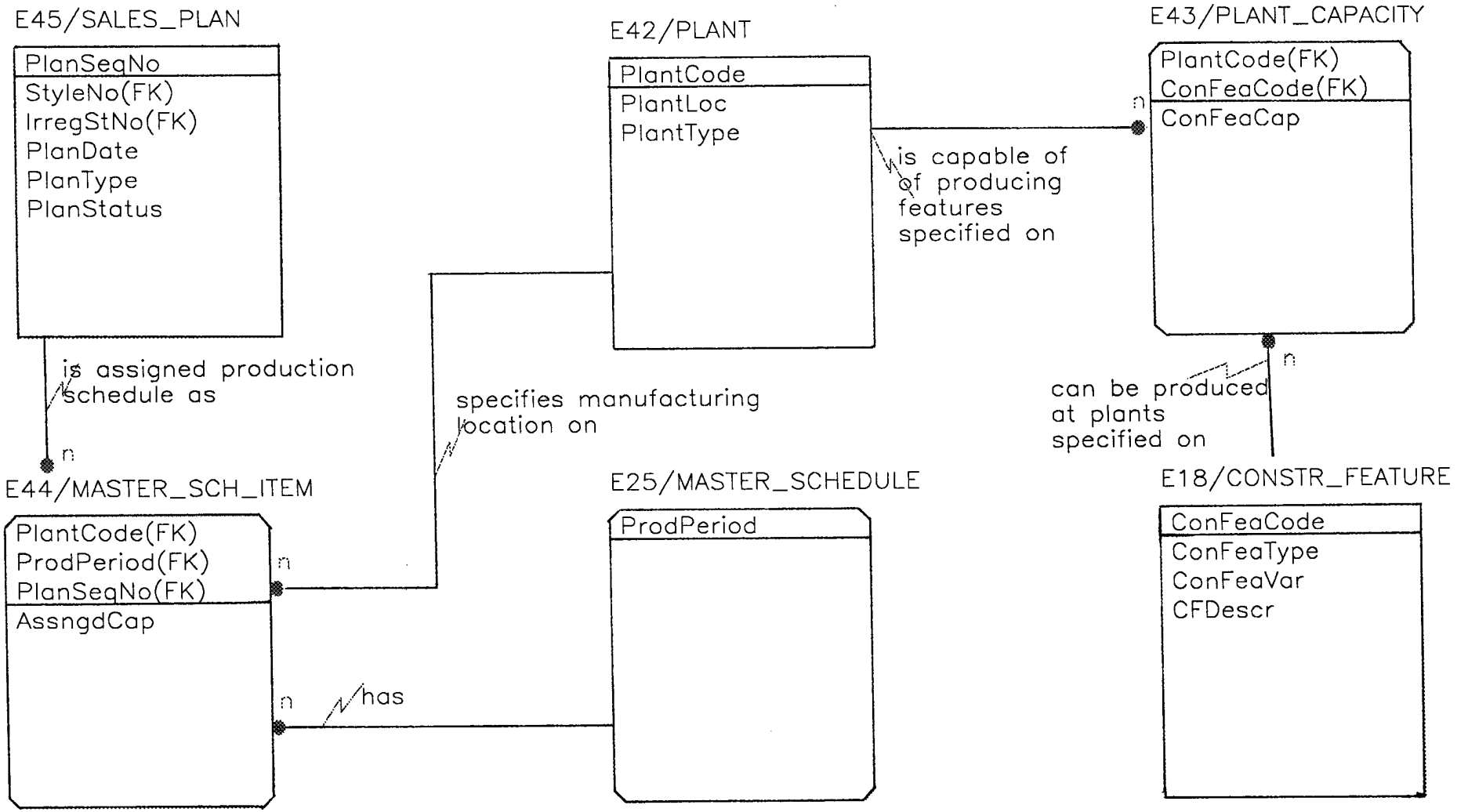

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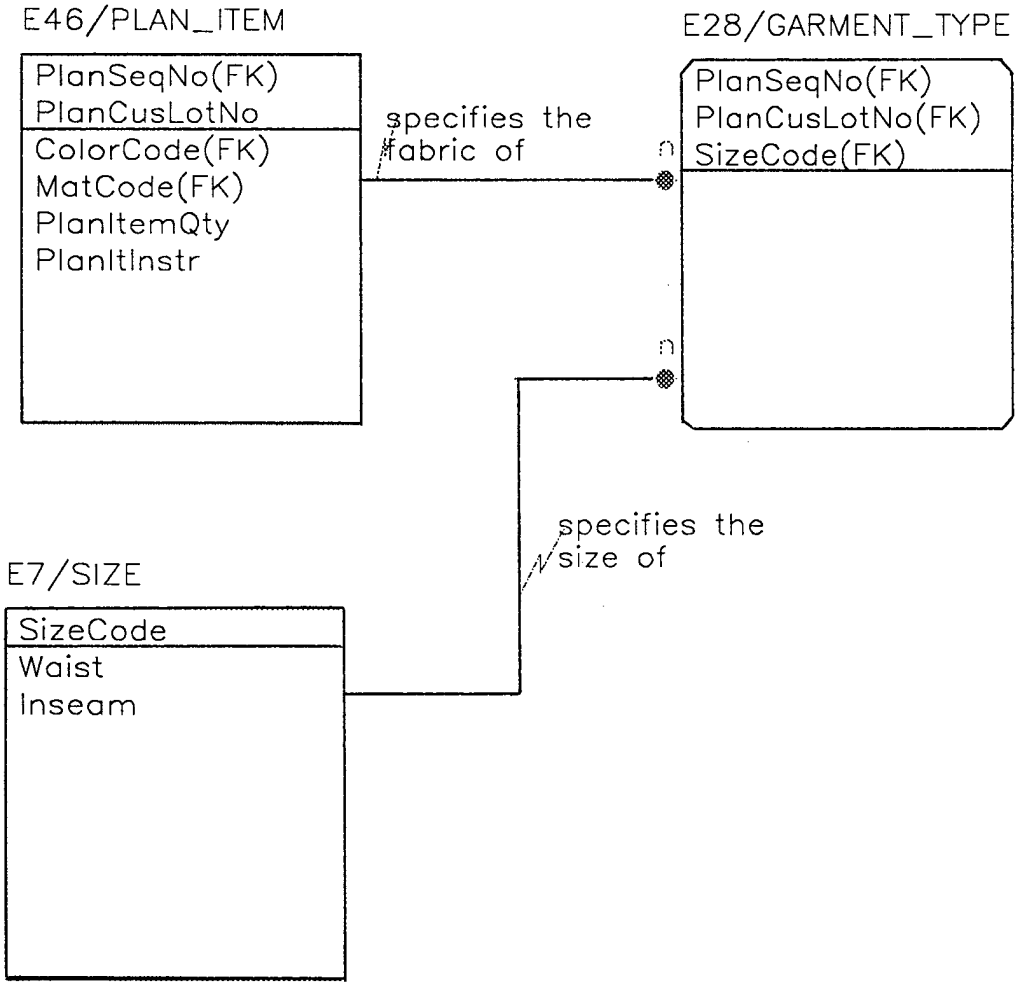

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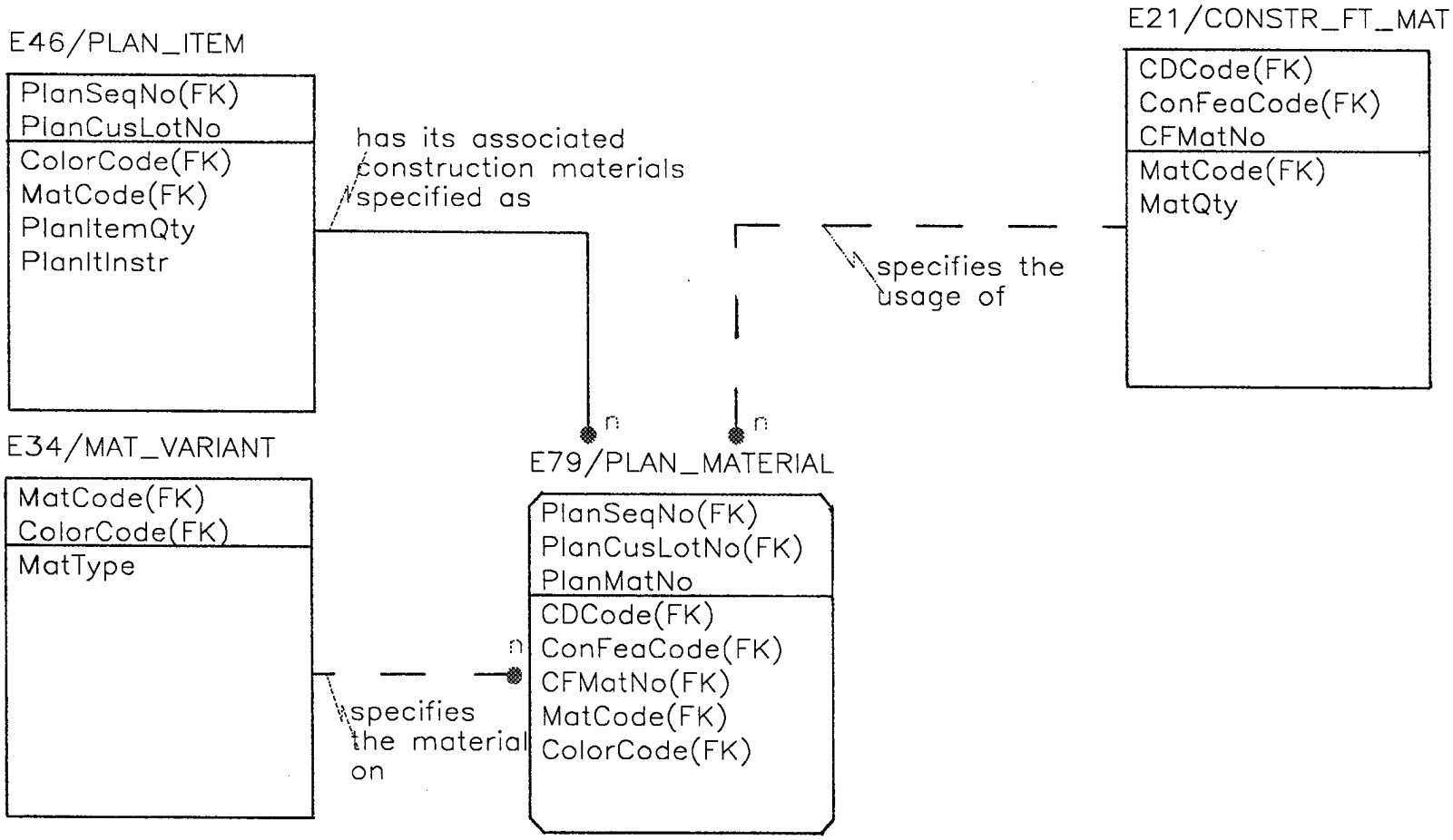

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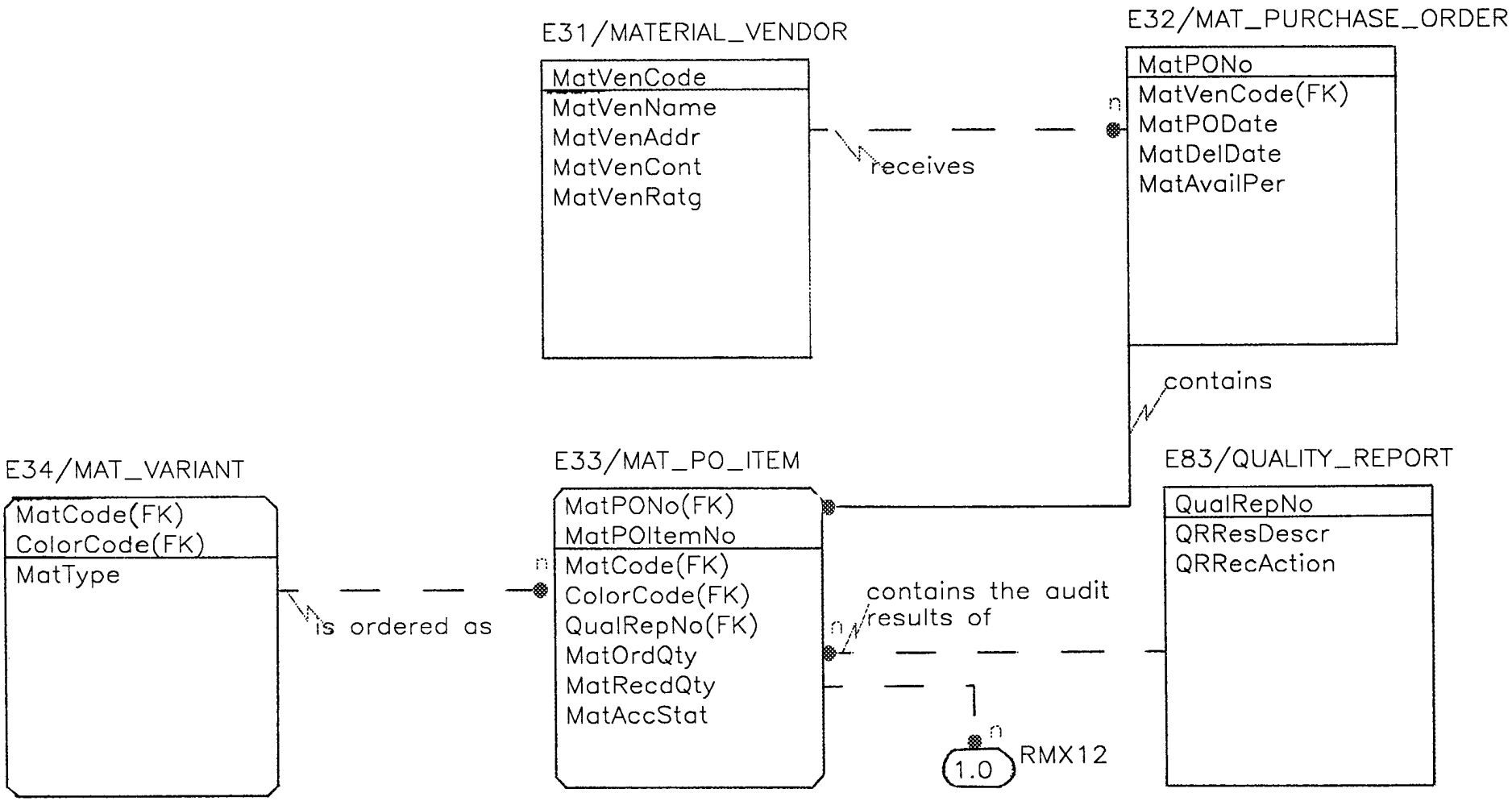

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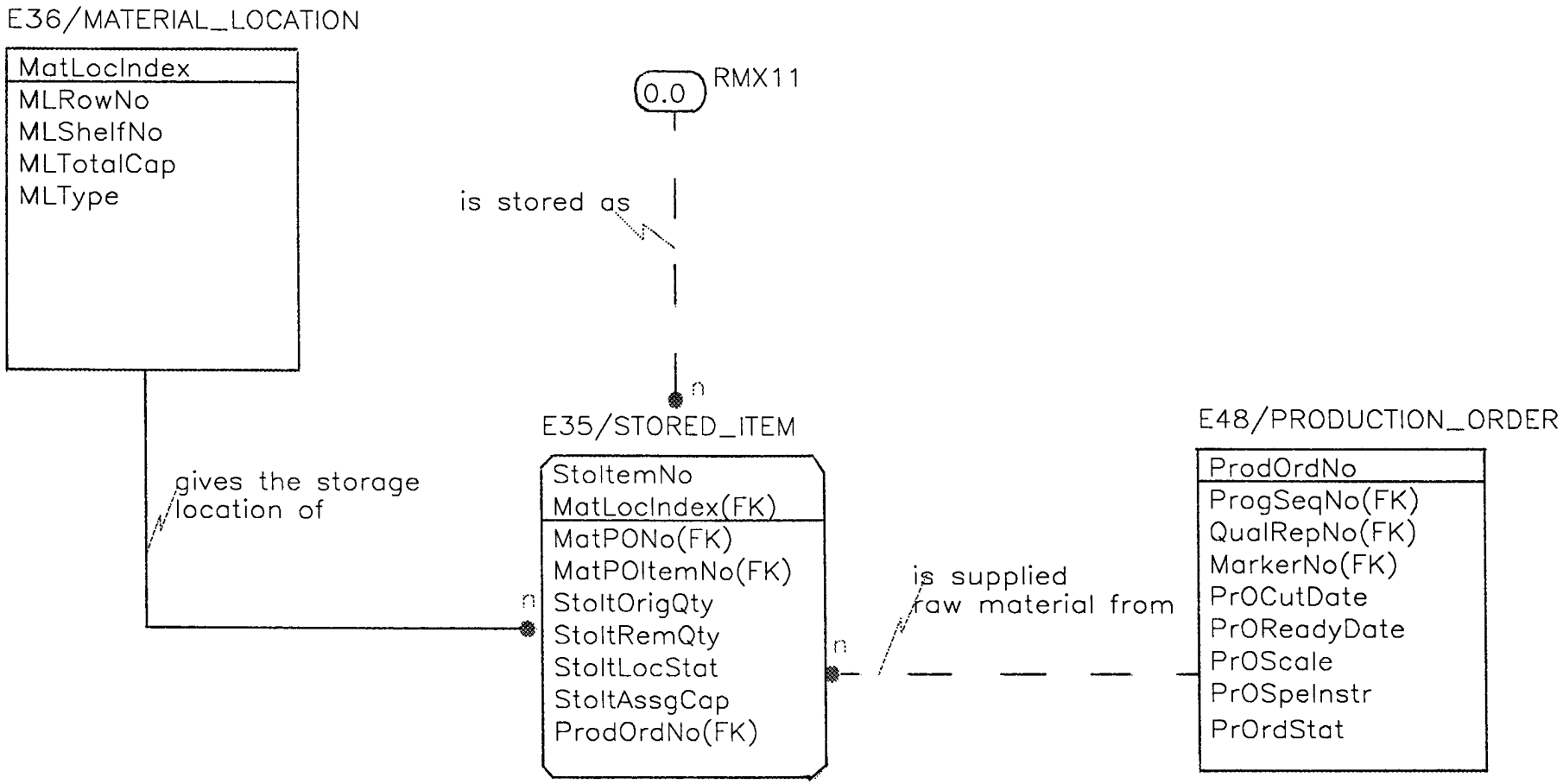

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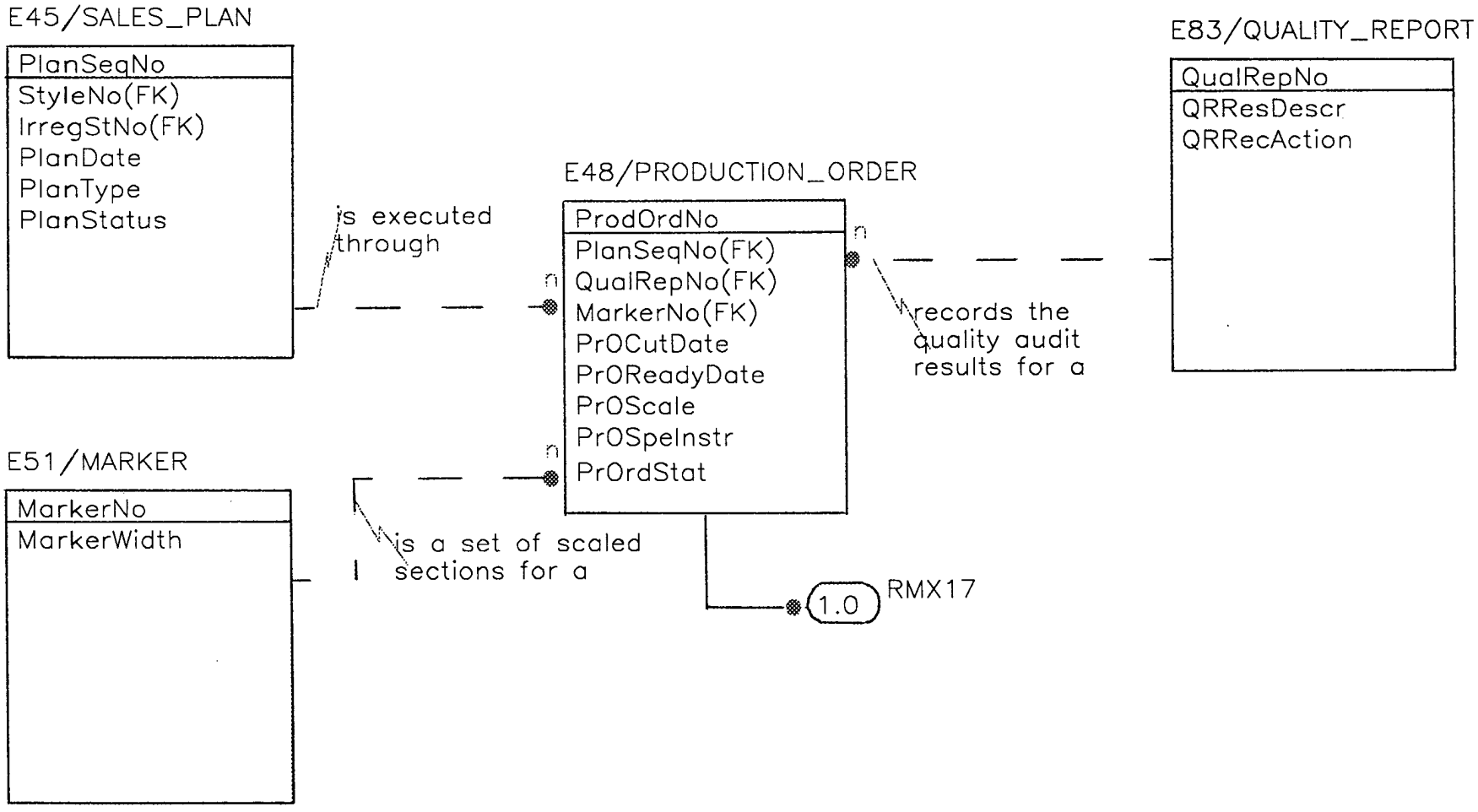

NODE: apparel/F400–0	TITLE: Cut Order Planning	NUMBER: RMX16

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	COMPANY: GEORGIA INSTITUTE OF TECHNOLOGY			RECOMMENDED			
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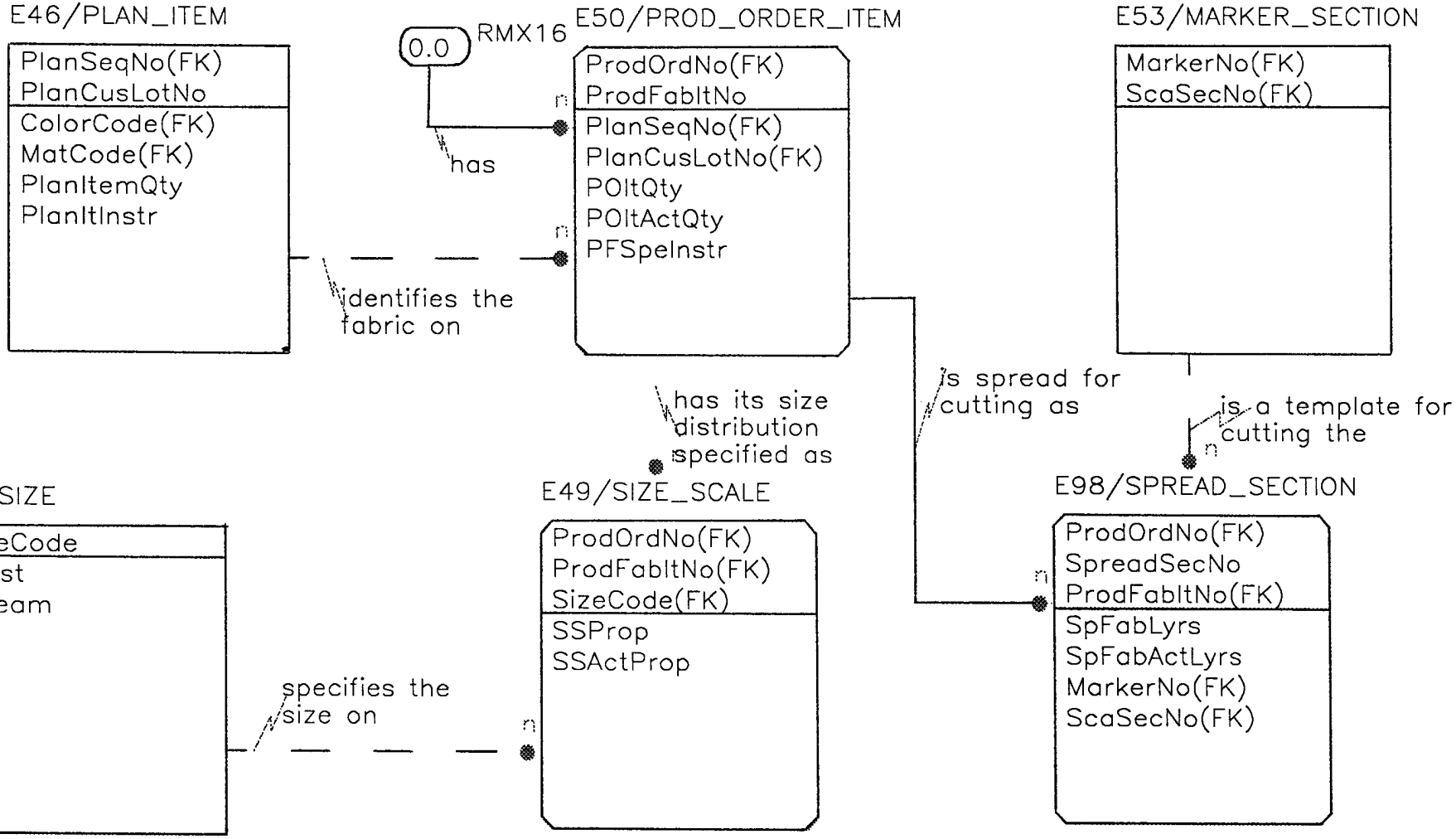

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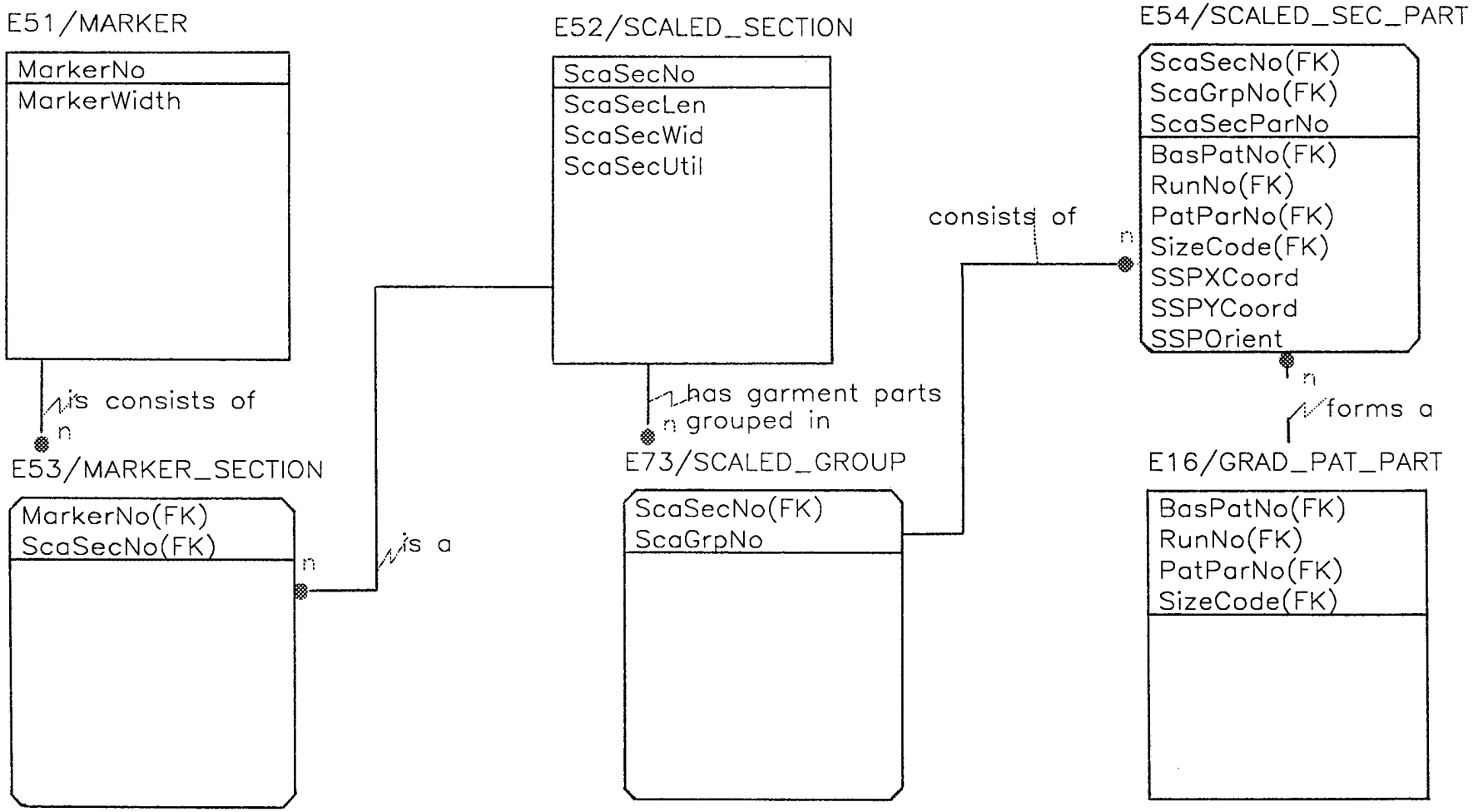

NODE: apparel/F405–0	TITLE: Marker Making	NUMBER: RMX18

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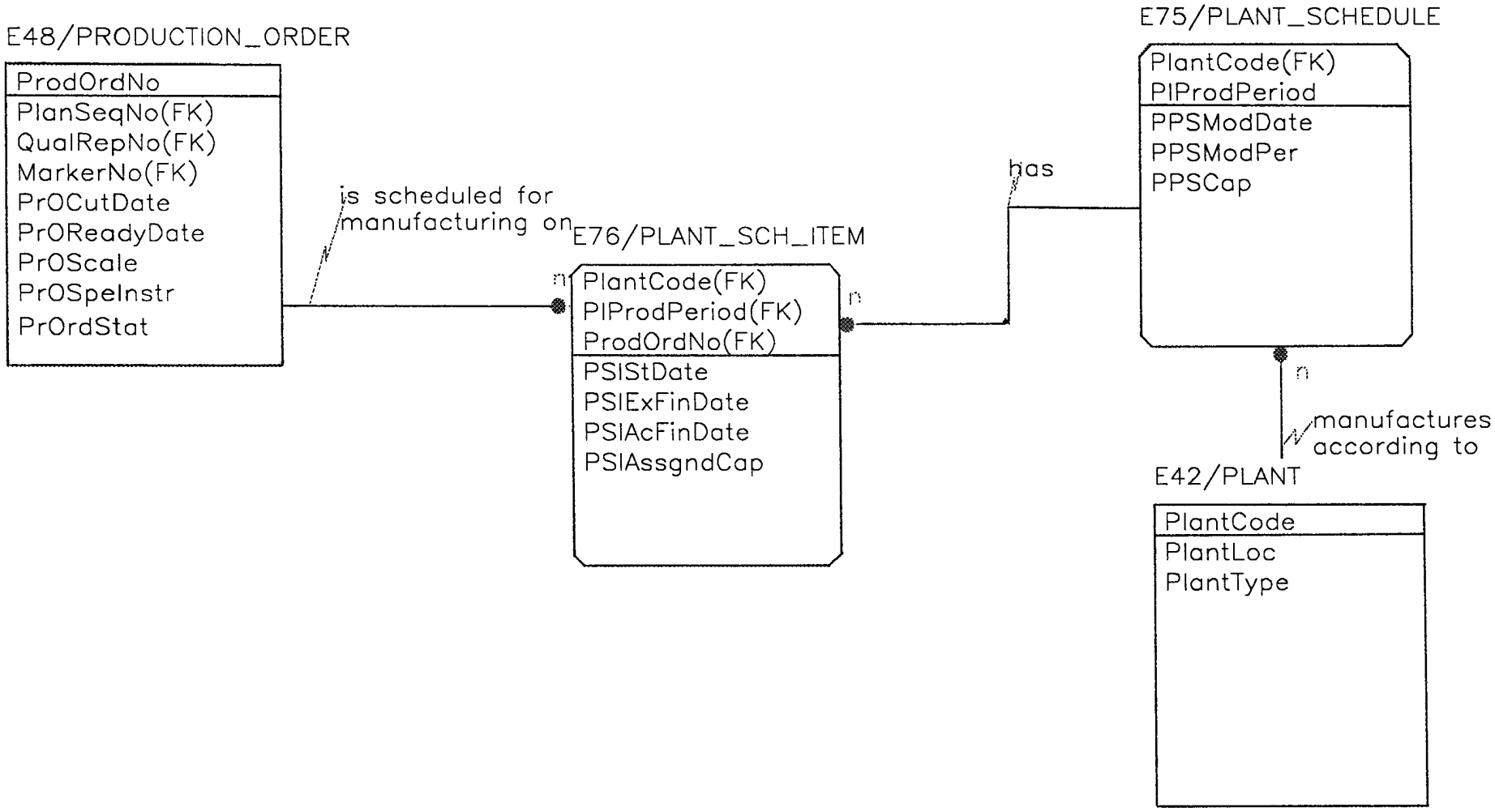

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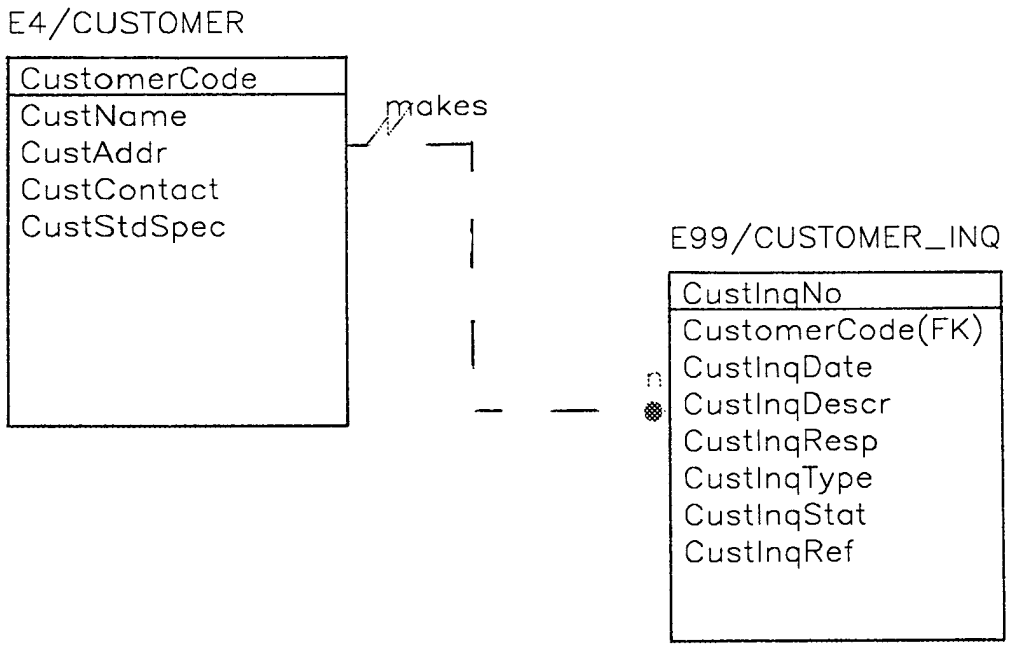

1

Attributes CustInqDescr and CustInqResp contain free format information (e.g., ascii text without any particular format).

NODE: apparel/F415–0	TITLE: Customer Interaction	NUMBER: RMX36

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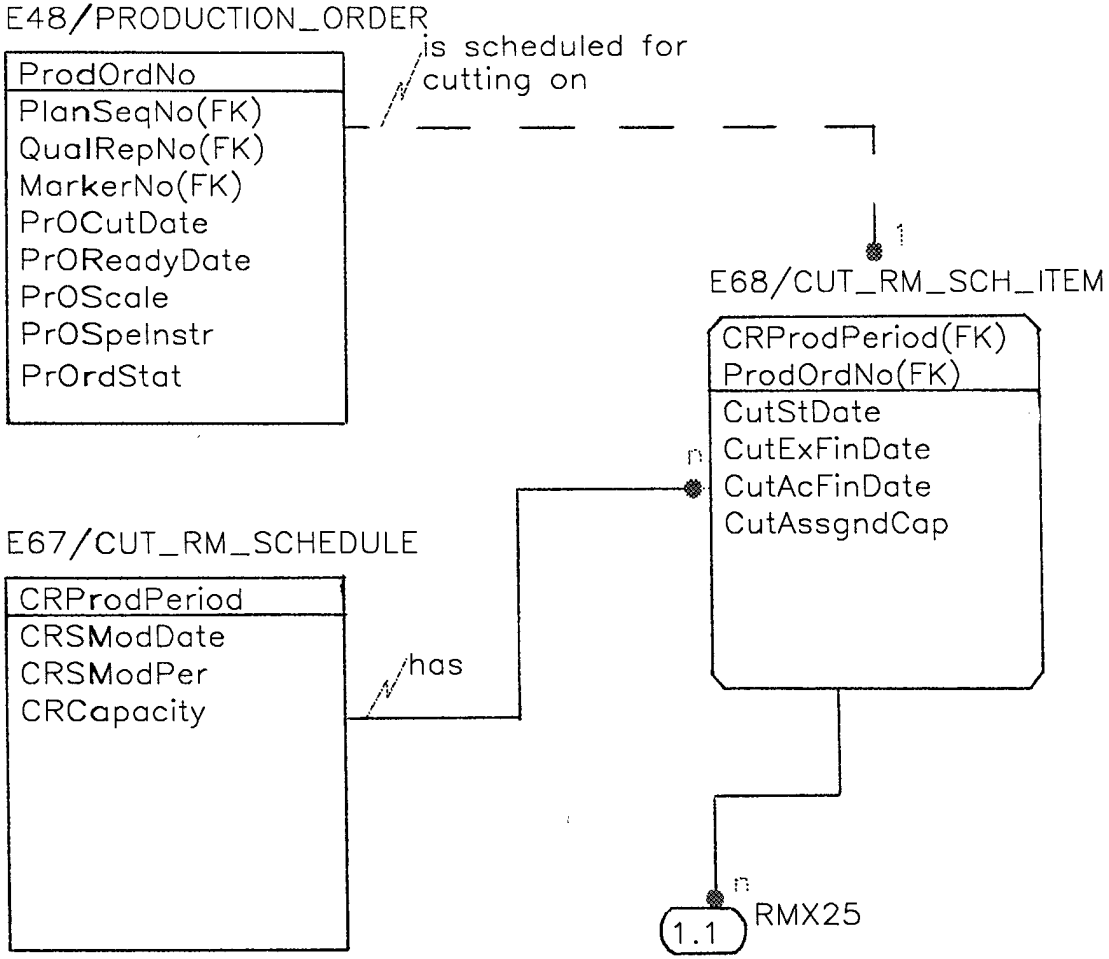

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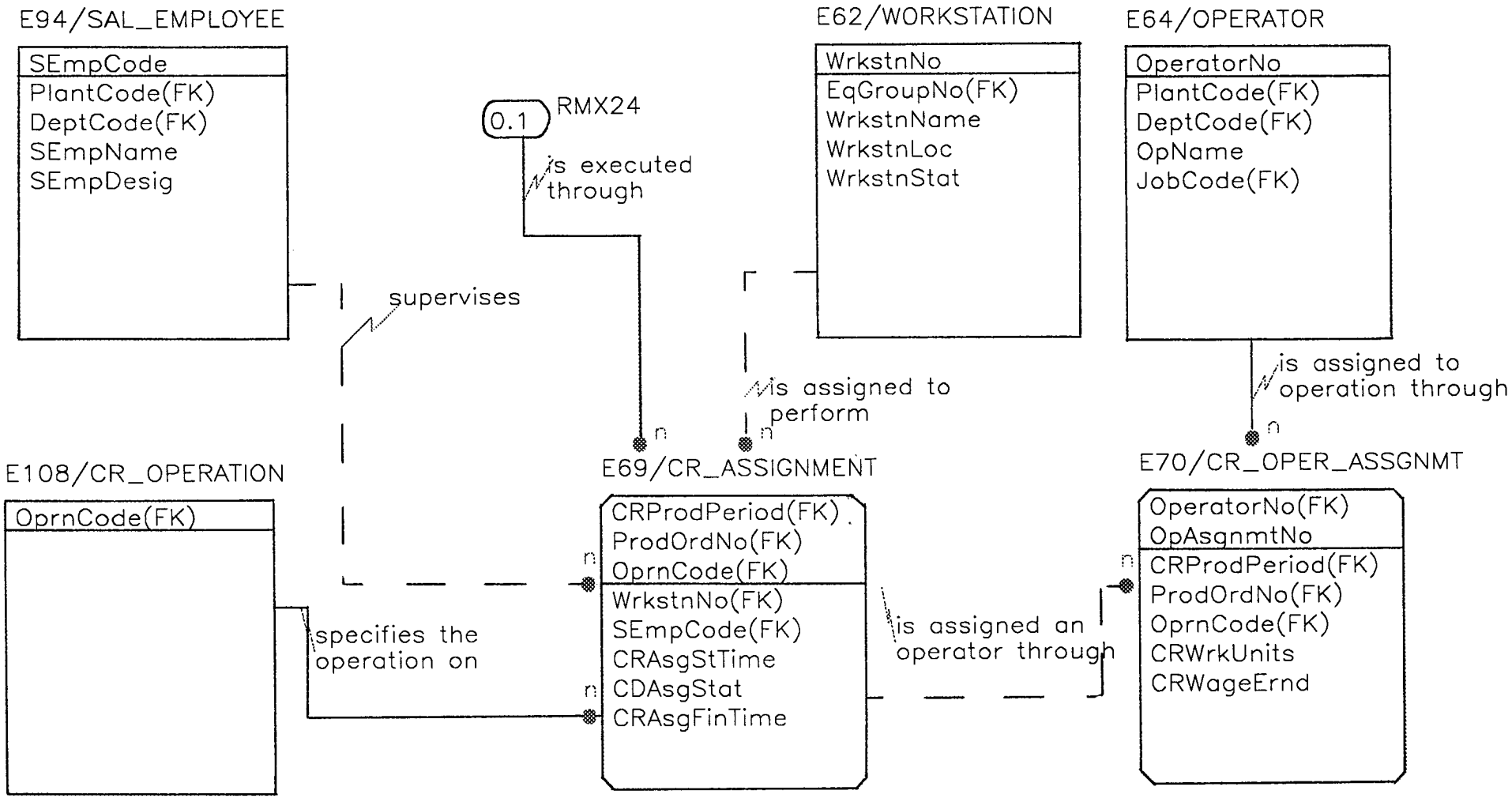

NODE: apparel/F500—1	TITLE: Cutting Room Scheduling and Control	NUMBER: RMX25

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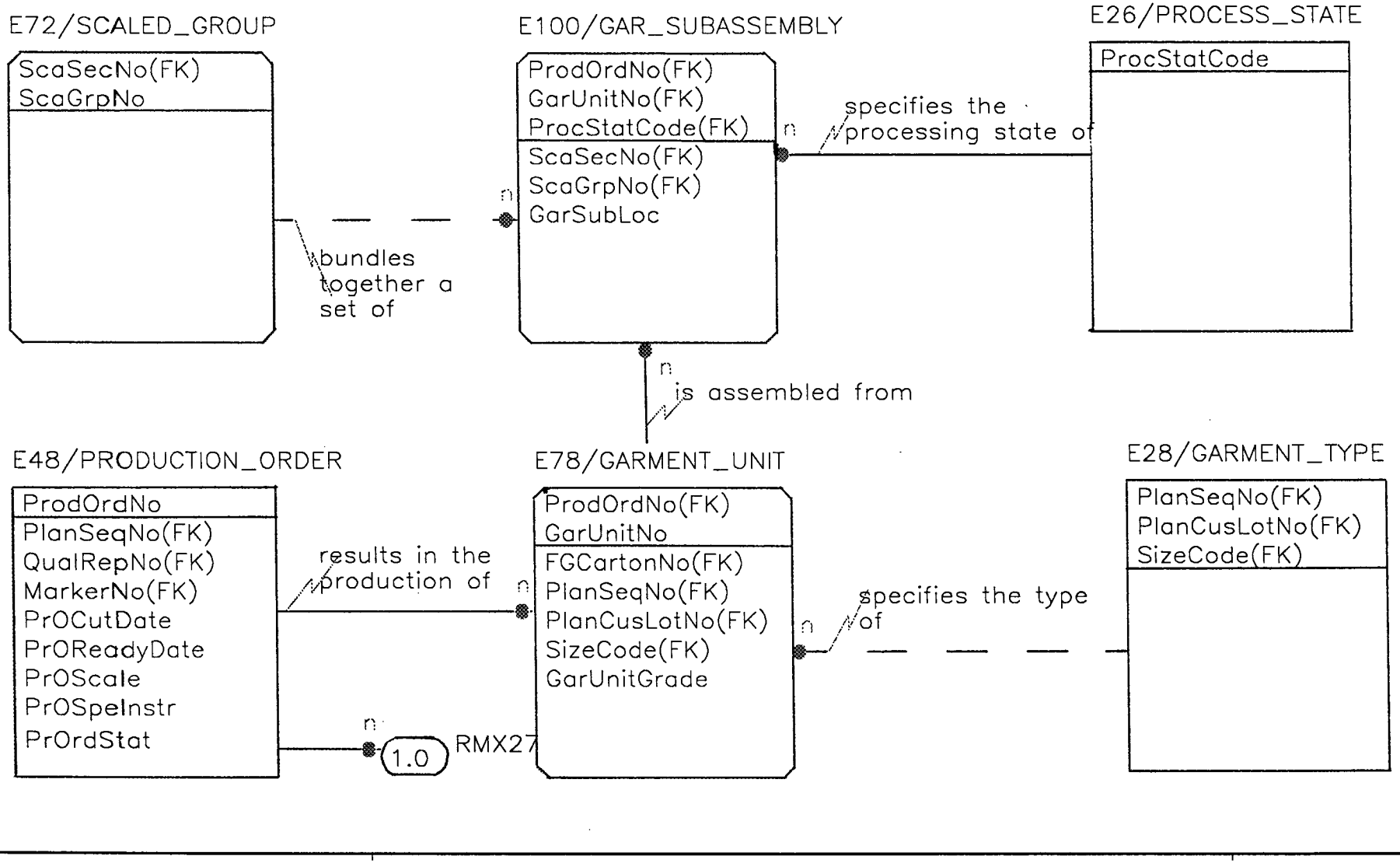

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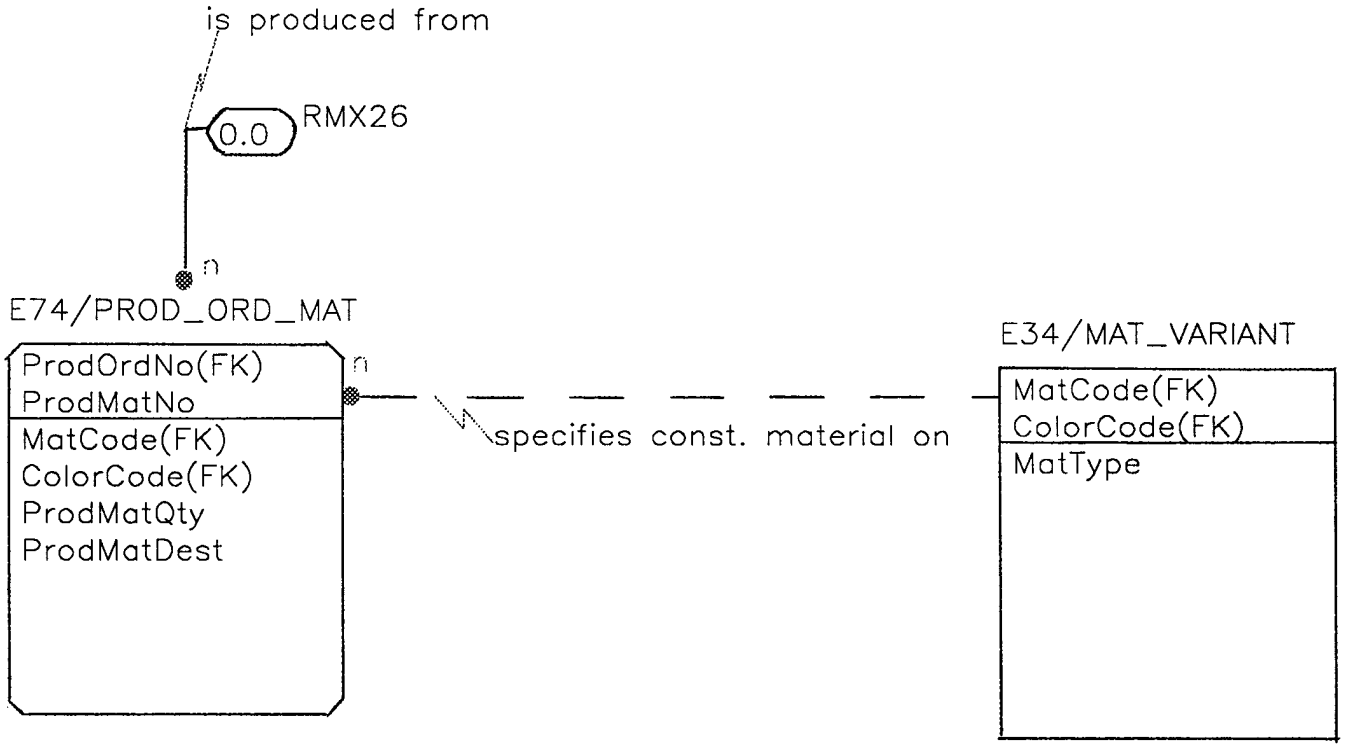

NODE: apparel/F505—1	TITLE: Cut Package Preparation	NUMBER: RMX27

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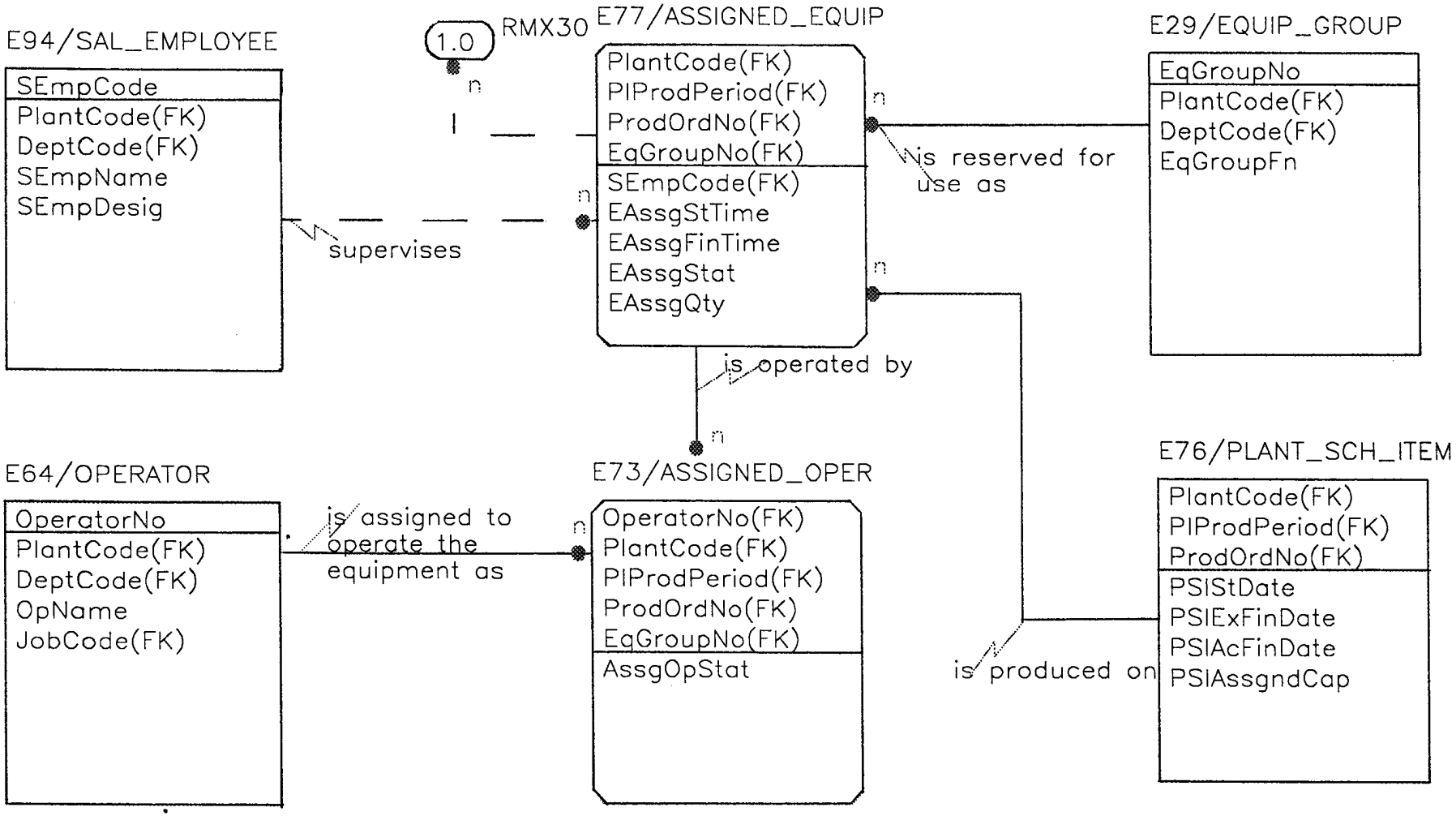

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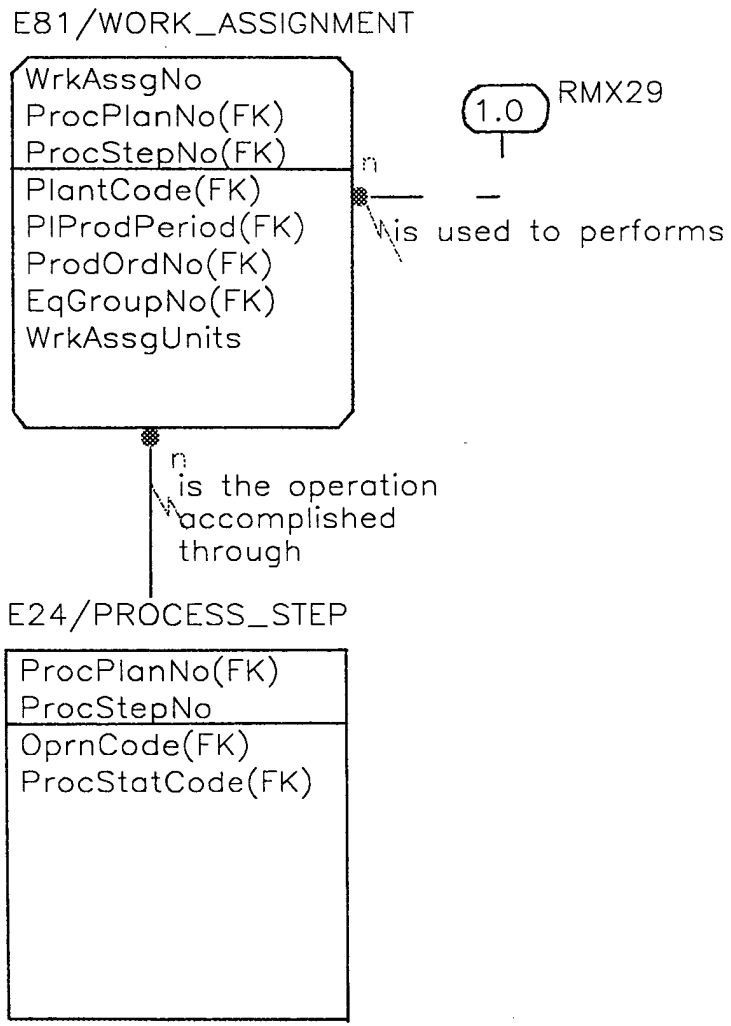

NODE: apparel/F510-1	TITLE: Manufacturing Resource Assignment	NUMBER: RMX30

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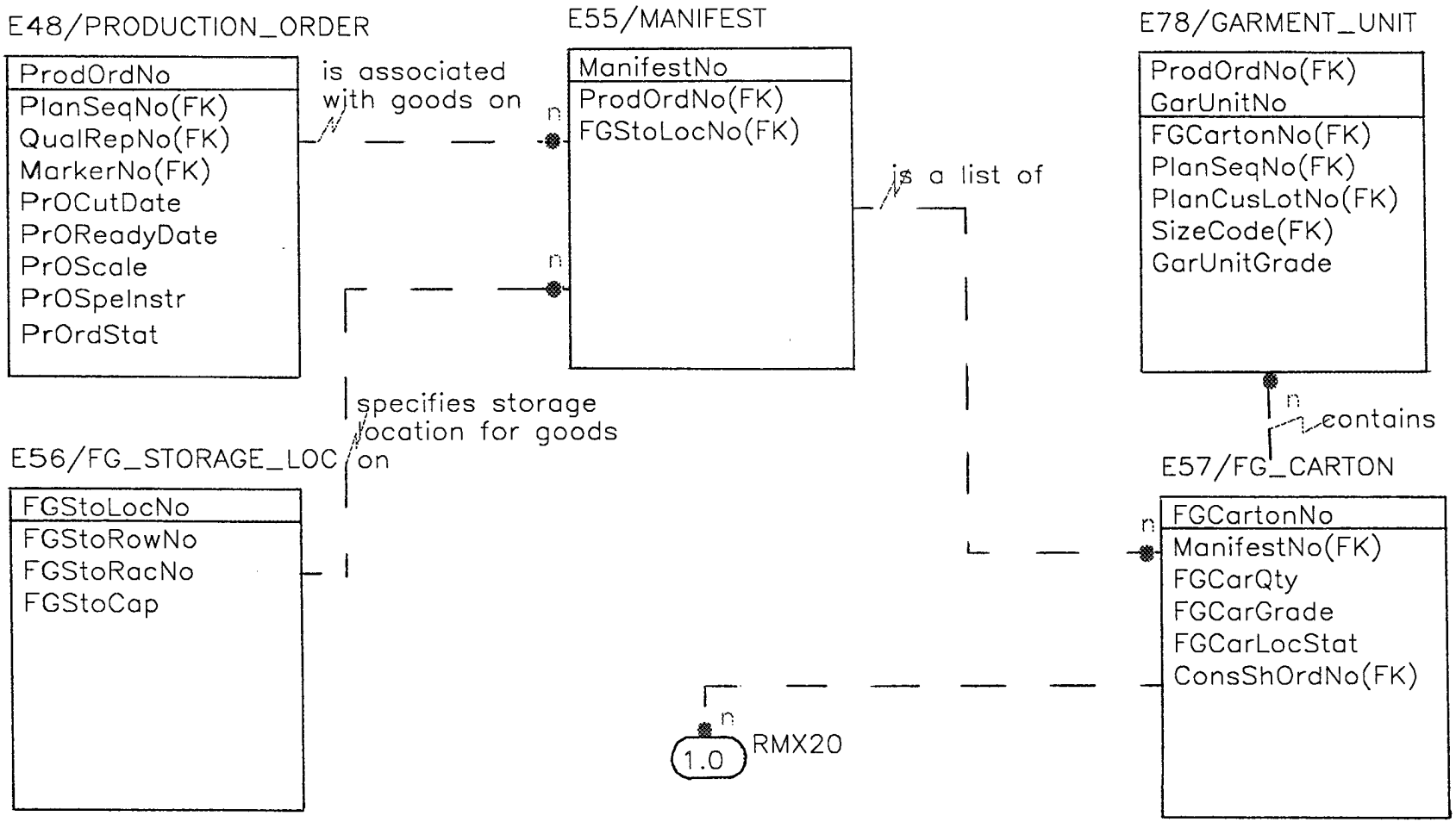

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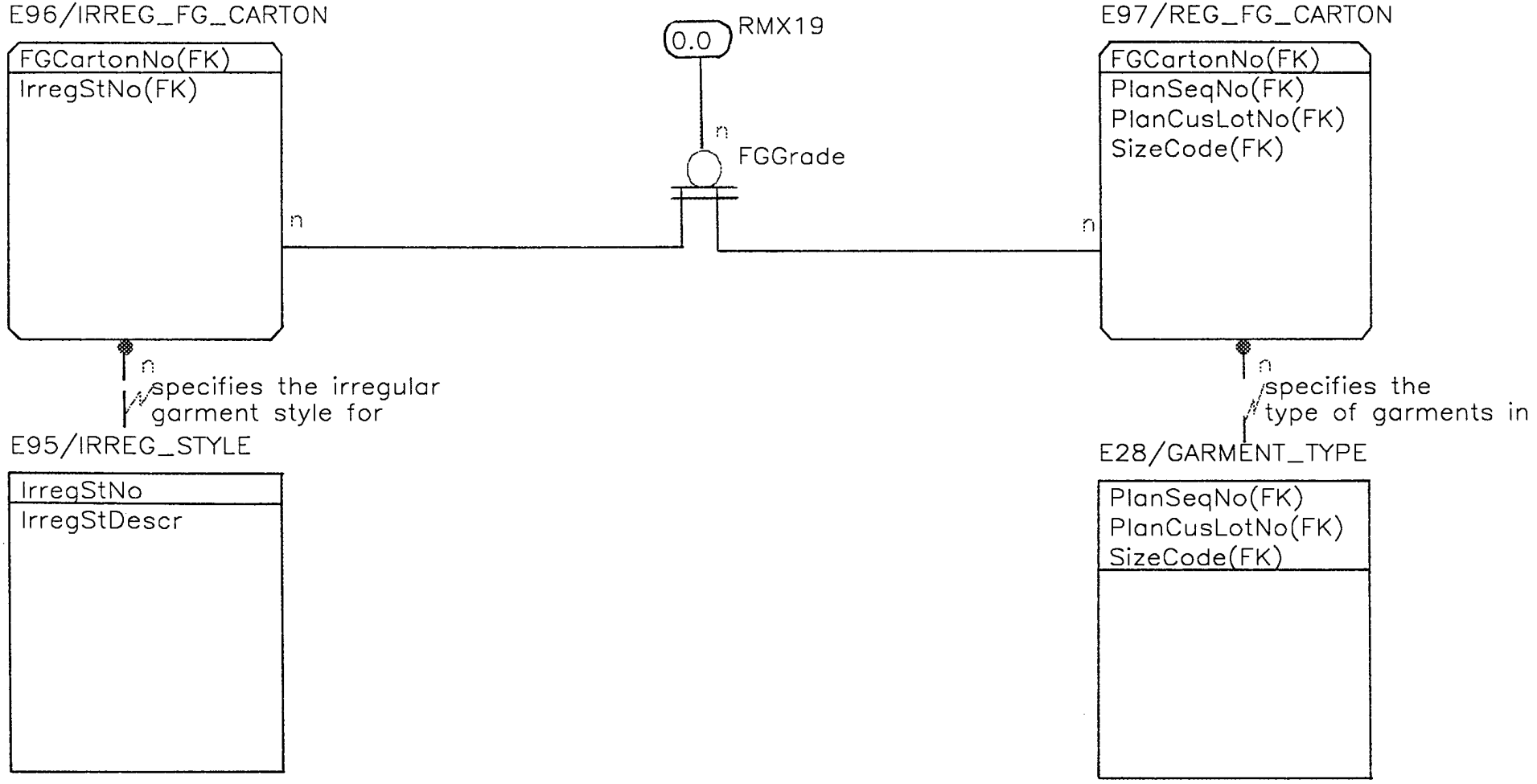

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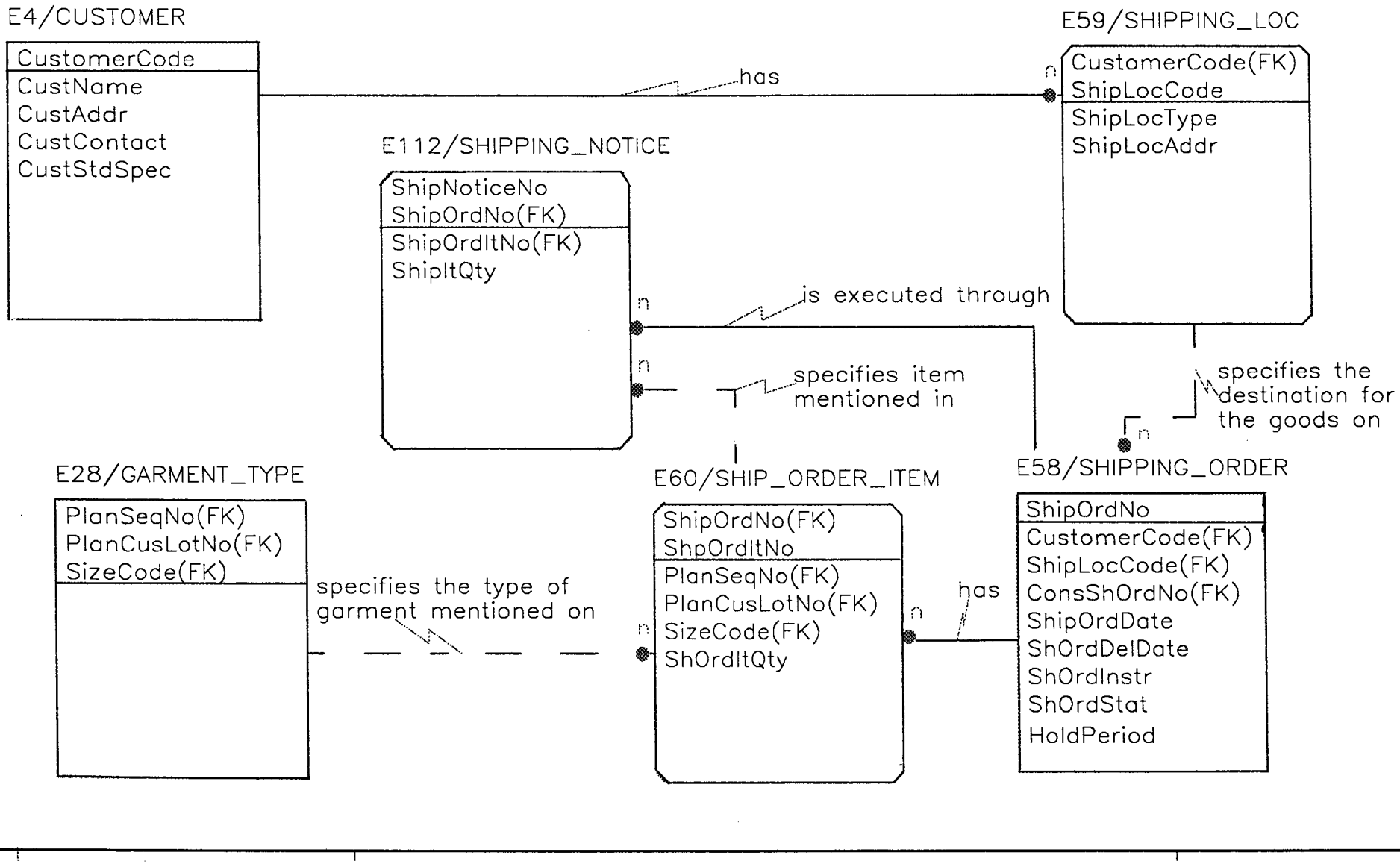

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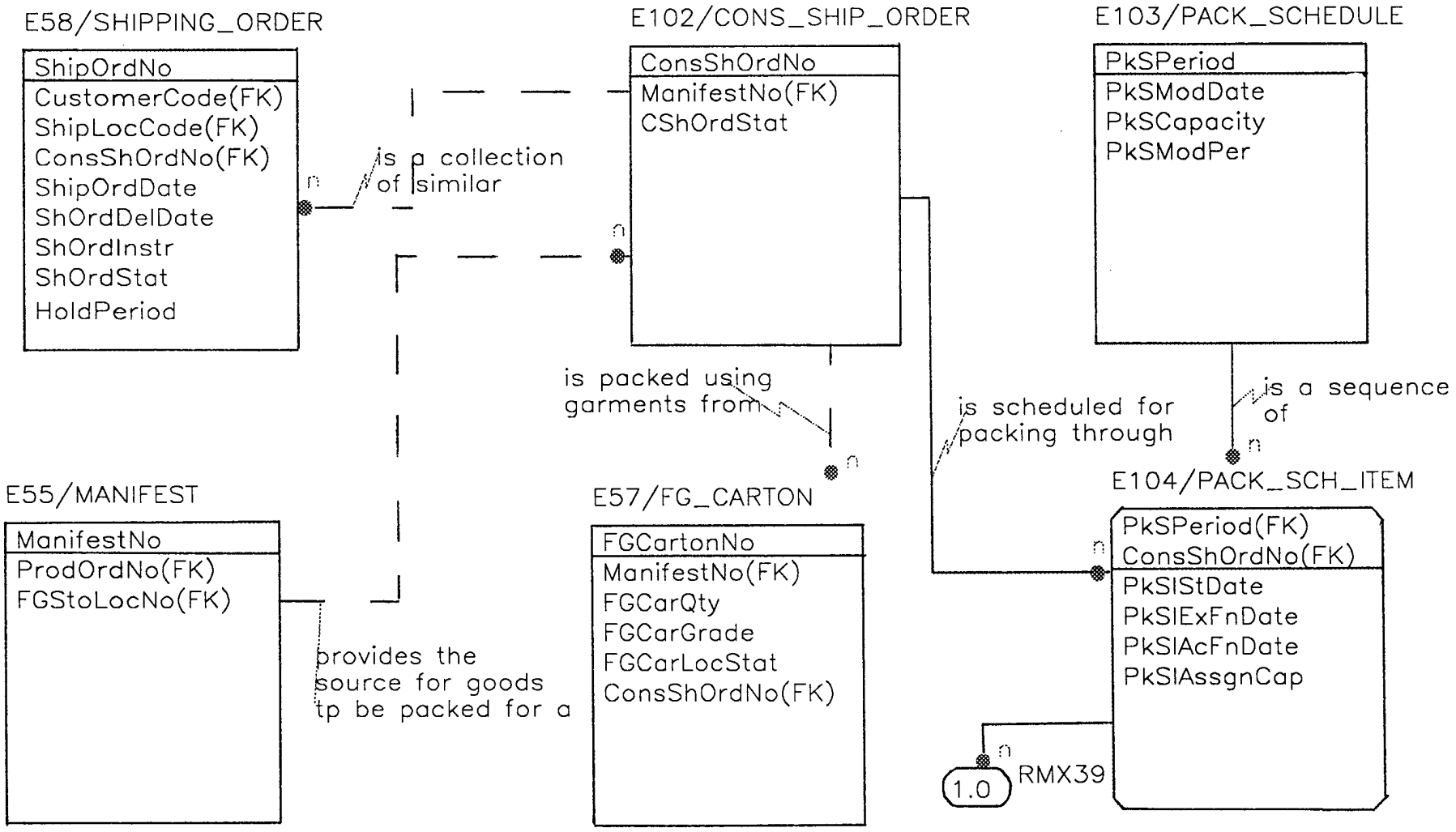

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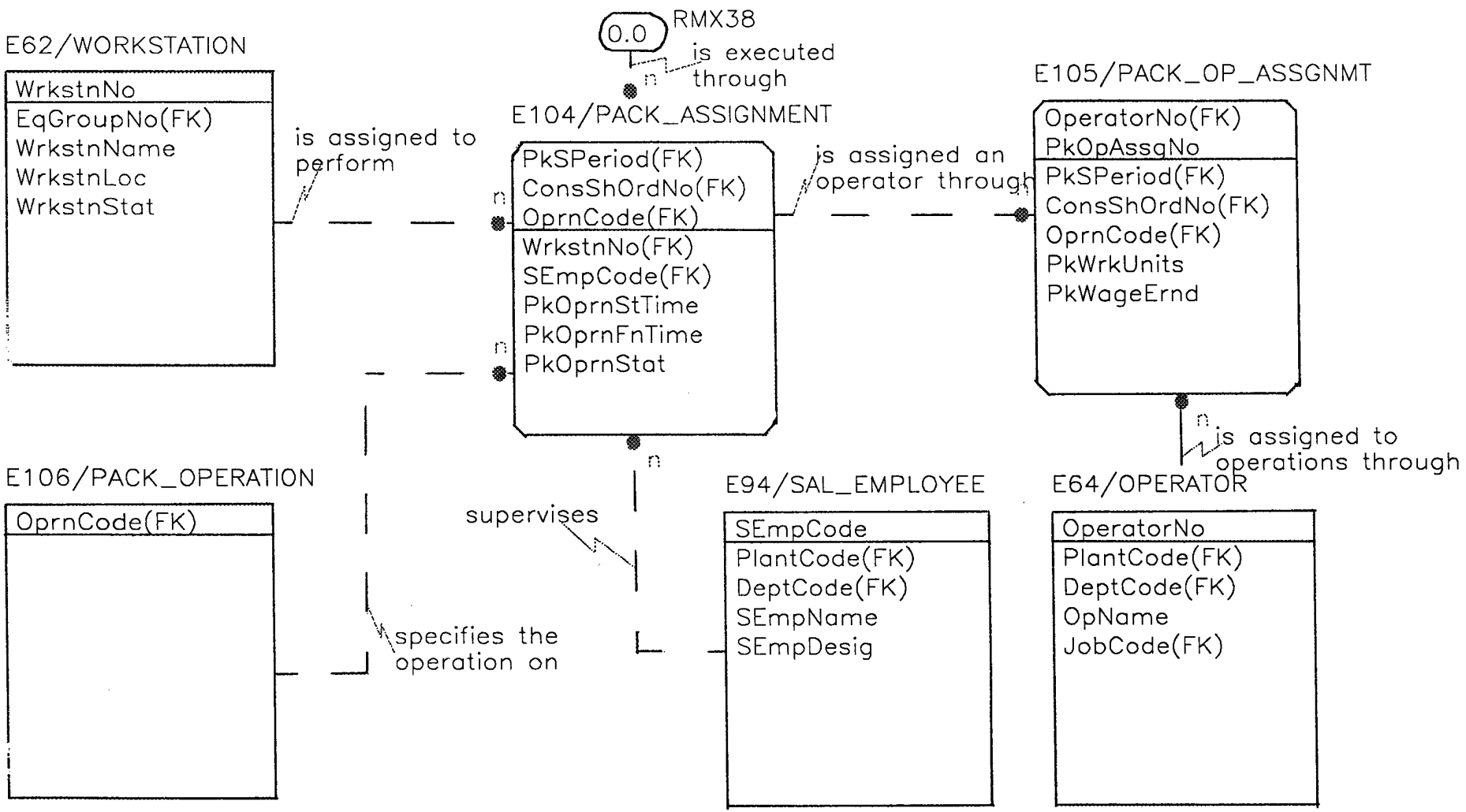

Section II

Definition of terms used in the Information Model

DEFINITIONS OF TERMS USED IN THE INFORMATION MODEL

1 STYLE

Style describes the style of the garments for manufacturing. Each garment style is developed for a particular customer.

Primary Key Attributes

StyleNo: *Style Number* is the identification number for the style.

Non-key Attributes

CDCode: FK CONSTR_DETAIL (3).

BasPatNo: FK BASE_PATTERN (13).

RunNo: FK PATTERN (14).

FitNo: FK FIT (2).

ProcPlanNo: FK PROCESS_PLAN (23).

StyCreDate: *Style Creation Date* is the date on which the style is created.

StyleStatus: *Style Status* is the status used to track the development of a style.

---

2 FIT

Fit is a collection of vital measurements associated with various sizes of garments to be produced.

Primary Key Attributes

FitNo: *Fit Number* is the identification number of the fit.

Non-key Attributes

GraTabNo: FK GRADE_TABLE (11).

MeasInstr: *Measuring Instructions* are the instructions provided with the fit regarding measurements. The pattern maker uses these instructions to measure the pattern.

FitStatus: *Fit Status* is a status attribute that is used to track the development of a fit.

---

3 CONSTR_DETAIL

Construction Detail describes the construction features for the garment style (e.g. style and position of front pocket) and the materials required for each of these features (e.g., type of pocket trim).

Primary Key Attributes

CDCode: *Model Number* is the identification number for the construction detail.

Non-key Attributes

CDCreator: *Construction Detail Creator* is the person who creates the detail.

CDCreDate: *Construction Detail Creation Date* is the date on which the detail is created.

CDStatus: *Construction Detail Status* is the status attribute that is used to track the development of a CD.

---

4 CUSTOMER

Customer is the party for whom the garments are manufactured.

Primary Key Attributes

CustomerCode: *Customer Code* is the identification code for the customer.

Non-key Attributes

CustName: *Customer Name* is the name of the customer.

CustAddr: *Customer Address* is the contact address of the customer.

CusContact: *Customer Contact Person* is the person designated by the customer to deal with the enterprise.

CustStdSpec: *Customer's Standard Specifications* are the specifications on garments that apply to all the garments supplied to that customer. MIL standards are an example of such specifications.

---

5 SAM_PROD_ASSGNMT

Sample Production Assignment is the work assigned to an employee in the sample production department to produce garments for a sample request.

Primary Key Attributes

SDProdPeriod: FK SAM_DEPT_SCH (91).

SDSchItNo: FK SAM_DEPT_SCH_ITEM (92).

SEmpCode: FK SAL_EMPLOYEE (94).

Non-key Attributes

None

---

6 FABRIC

Fabric identifies each distinct type of fabric used in garment manufacturing. Fabrics are distinguished from each other by their weave, material, weight and color.

Primary Key Attributes

MatCode: FK MATERIAL (22).

ColorCode: FK COLOR (81).

Non-key Attributes

FabWidth: *Fabric Width* is the width of the fabric.

---

7 SIZE

Size specifies the size of a garment. The size of trousers is specified by the waist and inseam measurement (e.g. 32/32, 32M, etc.)

Primary Key Attributes

SizeCode: *Size Code* is a code assigned to each size of the garment. For trousers, there is a unique size code for each waist and inseam combination.

Non-key Attributes

Waist: *Waist* is the measurement of a trouser at the waist.

Inseam: *Inseam* is the inseam length of a trouser.

---

8 SAMPLE_REQ

Sample Request is a request sent by the customer for sample garments. Each request can be used to obtain samples of various types.

Primary Key Attributes

SReqNo: *Sample Request Number* is a serial number assigned to each request for samples received from the customers.

Non-key Attributes

StyleConceptNo: FK STYLE_CONCEPT (109).

QualRepNo: FK QUALITY_REPORT (83).

SReqDate: *Sample Request Date* is the date on which the sample request is received.

SDelDate: *Sample Delivery Date* is the date on which the samples need to be delivered.

SActDelDate: *Sample Actual Delivery Date* is the date on which the samples are actually delivered.

SSpeInstr: *Sample Special Instructions* are the special instructions sent by the customer for preparing samples. For example, the customer may specify how the samples have to be packed, shipped, etc.

SReqStat: *Sample Request Status* is the completion status of a sample request.

---

9 SAM_REQ_ITEM

Sample Request Item is a line item on SAMPLE_REQ (8) specifying the GARMENT_TYPE (5) and the quantity of the sample garments requested. There is one sample request item for each type of garment requested.

Primary Key Attributes

SReqNo: FK SAMPLE_REQ (8).

SReqItemNo: *Sample Request Item Number* is the serial number for each item requested on a sample request.

Non-key Attributes

SizeCode: FK SIZE (7).

SamQty: *Sample Quantity* is the quantity of sample item requested.

SReqItDescr: *Sample Item Description* is the description of the item giving information, such as the type of fabric to be used.

---

10 MEASUREMENT

Measurement is a collection of vital measurements associated with each size in a fit. For example, seat, bottom, knee and outer seam measurements for size 32/32 in a particular fit.

Primary Key Attributes

FitNo: FK FIT (2).

SizeCode: FK SIZE (7).

Non-key Attributes

Seat: *Seat Measurement* is the measurement of a trouser of a particular size and fit at its seat.

Rise; *Rise Measurement* is the measurement of a trouser's seat seam.

Knee: *Knee Measurement* is the measurement of a trouser leg's width at the knee.

Bottom: *Bottom Measurement* is the measurement of a trouser leg's bottom opening.

---

11 GRADE_TABLE

Grade Table is a collection of rules for grading a pattern of one size of garment to obtain the patterns for different-sized garments.

Primary Key Attributes

GraTabNo: *Grade Table Number* is the number assigned to each grade table in use for pattern grading.

Non-key Attributes

GraTabStat: *Grade Table Status* is the status attribute that is used to track the development of a grade table.

---

12 GRADE_RULE

Grade Rule is the rule for grading a pattern to obtain a pattern for a particular size.

Primary Key Attributes

GraTabNo: FK GRADE_TABLE (11).

GraPointNo: *Grade Point Number* is the point marked on the pattern to which the rule applies.

SizeCode: FK SIZE (7).

Non-key Attributes

DisplX: *Displacement along X Axis* is the displacement of the grade point along X axis.

DisplY: *Displacement along Y Axis* is the displacement of the grade point along Y axis.

---

13 BASE_PATTERN

Base Pattern is the basic template for generating a pattern for a garment style. A base pattern roughly conforming to the shape of the garment style is selected and modified to obtain the pattern for that style.

Primary Key Attributes

BasPatNo: *Base Pattern Number* is the identification number assigned to each basic garment pattern used for making patterns.

Non-key Attributes

BasPatDescr: *Base Pattern Description* is a brief description of the garment type for which the pattern may be used. For example, men's baggy trousers.

BasPatStatus: *Base Pattern Status* is a status attribute that is used to track the development of a new base pattern.

---

14 PATTERN

Pattern is a collection of shapes for the parts of a garment style. Pattern is usually standardized for a particular size. Exact shapes for each size in the style are obtained by grading the pattern.

Primary Key Attributes

BasPatNo: FK BASE_PATTERN (13).

RunNo: *Run Number* is the identification number assigned to each modification of the base pattern. Base patterns are modified to obtain patterns for particular fit and style.

Non-key Attributes

PatAvYard: *Pattern's Average Yardage* is the average area of the pattern. This figure is used to estimate fabric requirements of styles using this pattern.

PatStatus: *Pattern Status* is the status attribute that is used to track the development of a new pattern.

---

15 PATTERN_PART

Pattern Part is the shape associated with each part of the garment style. For example, shape of the front left leg panel of a trouser.

Primary Key Attributes

BasPatNo: FK BASE_PATTERN (13).

RunNo: FK PATTERN (14).

PatParNo: *Pattern Part Number* is the identification number assigned to each part in a pattern.

Non-key Attributes

PatParName: *Pattern Part Name* is the descriptive name for each pattern part.

PatParShape: *Pattern Part Shape* is the description (a bitmap) of part's shape in computer format.

---

16 GRAD_PAT_PART

Graded Pattern Part is a pattern part graded for a particular size of garment.

Primary Key Attributes

BasPatNo: FK BASE_PATTERN (13).

RunNo: FK PATTERN (14).

PatParNo: FK PATTERN_PART (15).

SizeCode: FK SIZE (7).

Non-key Attributes

None

---

17 CONSTR_DET_ITEM

Construction Detail Item is a line item on CONSTR_DETAIL (3) for specifying the construction feature.

Primary Key Attributes

CDCode: FK CONSTR_DETAIL (3).

ConFeaCode: FK CONSTR_FEATURE (18).

Non-key Attributes

CDItDescr: *Construction Detail Item Description* is the description of the construction feature specific to the construction detail. The details that are not provided with the description of the generic feature are provided here. For example, in the feature offset front pocket, the offset measurement is not provided in the feature description; it is specific to a particular construction detail and is provided here.

CDItQty: *CD Item's Quantity* is the quantity of the feature required. For example, two back pockets.

---

18 CONSTR_FEATURE

Construction Feature is a design style of a particular aspect of a garment. Each feature is identified by its generic type and the variation in styling of this generic type. For example, back pockets are a generic feature on a trouser and possible variations are with flap, with button, with button and flap, etc.

Primary Key Attributes

ConFeaCode: *Construction Feature Code* is the ID code of a feature.

Non-key Attributes

ConFeaType: *Construction Feature Type* identifies the basic type of the construction feature. For example, trouser back pockets, trouser waistband, etc.

ConFeaVar: *Construction Feature Variation* identifies the variation of the construction feature type. For example, one of the variation of the feature type trouser back pocket is a patch pocket with double seams.

CFDescr: *Construction Feature Description* is the description of the general description of the feature. Specific information, e.g. the size and the position of the back pocket are not provided here, but are left to the description of an instance of the feature (see CDItDescr in CONSTR_DET_ITEM (17)).

---

19 CONSTR_FT_ITEM

Construction Feature Item is a line item on CONSTR_FEATURE (18) specifying the construction operation associated with production of a particular feature. Typically, construction of a feature involves more than one basic construction operation.

Primary Key Attributes

ConFeaCodee: FK CONSTR_FEATURE (18).

OprnCode: FK OPERATION (107).

Non-key Attributes

CFItQty: *Construction Feature Item Quantity* is gives the number of times a particular operation has to be performed to produce the feature (This value is required for costing which is done by summing up the costs of construction operations involved).

---

20 CONSTR_OPR

Construction Operation is a basic production operation in the manufacture of garments. Sewing the seat seam on a dress trouser and attaching the label to back pocket are examples of construction operations. Each construction operation has a cost associated with it (costing for a garment style is done by summing up the cost of materials, fabric and all the construction operations involved). It is a category of entity OPERATION (107).

Primary Key Attributes

OprnCode: FK OPERATION (107).

Non-key Attributes

None

---

21 CONSTR_FT_MAT

Construction Feature Material is the construction material required to produce a particular garment feature. For example, constructing a waistband on a trouser requires a particular type of waistbanding trim. Since construction detail is a generic description for a style, the materials that are dependent on fabric color are specified in FAB_DEPNDT_MAT (79).

Primary Key Attributes

CDCode: FK CONSTR_DETAIL (3).

ConFeaCode: FK CONSTR_FEATURE (18).

CFMatNo: *Construction Feature Material Number* is the serial number of the material item.

Non-key Attributes

MatCode: FK MATERIAL (22).

MatQty: *Construction Material Quantity* is the quantity of construction material required for the feature.

---

22 MATERIAL

Material is the generic category of materials that go into garment construction. Examples of such materials are trim, closures, labels, etc.

Primary Key Attributes

MatCode: *Material Code* is the identification code assigned to each material.

Non-key Attributes

MatDescr: *Construction Material Description* is the descriptive name for the material.

MatUnit: *Material Unit* is the unit (yard, pound, count, etc.) used to measure the material.

MatCost: *Material Cost* is the standard cost associated with a material.

---

23 PROCESS_PLAN

Process Plan is a sequence of construction operations involved in the manufacture of a garment style.

Primary Key Attributes

ProcPlanNo: *Process Plan Number* is the identification number assigned to each process plan.

Non-key Attributes

None

---

24 PROCESS_STEP

Process Step is a step in the process plan sequence that transforms the state of a garment sub-assembly.

Primary Key Attributes

ProcPlanNo: FK PROCESS_PLAN (23).

ProcStepNo: *Process Step Number* is the sequence number of an operation in the process plan.

Non-key Attributes

OprnCode: FK OPERATION (107).

ProcStatCode: FK PROCESS_STATE (26).

---

25 MASTER_SCHEDULE

Master Schedule is the long-term manufacturing schedule for the enterprise. On this schedule available production capacities in each plant are assigned to various sales plans. It is used for estimating materials requirements for any period and for other manufacturing planning activities.

Primary Key Attributes

ProdPeriod: *Production Period* is a period (e.g., a week) which is the basis for planning.

Non-key Attributes

None

---

26 PROCESS_STATE

Process State is the state of a garment sub-assembly that results when an operation (process step) is performed on that sub-assembly. Each step requires the sub-assemblies to be in a particular state.

Primary Key Attributes

ProcStatCode: *Process State Code* is the code that identifies the state achieved by a garment subassembly as a result of a process step being performed.

Non-key Attributes

None

---

27 PROC_INPUT_STAT

Process Input State is a set of states required as an input for a process step.

Primary Key Attributes

ProcPlanNo: FK PROCESS_PLAN (23).

ProcStepNo: FK PROCESS_STEP (24).

ProcStatCode: FK PROCESS_STATE (26).

Non-key Attributes

None

---

28 GARMENT TYPE

Garment Type is an identity for each distinct type of garment in the warehouse. Each type is identified by the plan, fabric type and size.

Primary Key Attributes

PlanSeqNo: FK SALES_PLAN (45).

PlanCusLotNo: FK PLAN_ITEM (46).

SizeCode: FK SIZE(7).

Non-key Attributes

None

---

29 EQUIP_GROUP

Equipment Group is a collection of production equipment that is used together. A unit production system or a module can be viewed as a group. All the workstations in a group are assigned to a job together.

Primary Key Attributes

PlantCode: FK PLANT (42).

DeptCode: FK DEPARTMENT (61).

EqGroupNo: *Equipment Group Number* is a number identifying a particular line or a module.

EqGroupFn: *Equipment Group Function* is the function performed by a line or a module, e.g., pressing, waistband assembly, etc.

Non-key Attributes

None

---

30 BUFFER

Buffer is a storage location in the production area that can hold garment sub-assemblies temporarily between operations.

Primary Key Attributes

BufferNo: *Buffer Number* is a number identifying a particular buffer in a group.

Non-key Attributes

EqGroupNo: FK EQUIP_GROUP (29).

BufferLoc: *Buffer Location* is the physical location of a buffer.

BufferCap: *Buffer Capacity* is the maximum holding capacity of a buffer.

---

31 MATERIAL_VENDOR

Material Vendor is a suppliers for material such as trim, threads, accessories, tickets, tags and labels.

Primary Key Attributes

MatVenCode: *Material Vendor Code* is the identification code assigned to each vendor of construction materials.

Non-key Attributes

MatVenName: *Material Vendor's Name* is the name for the material vendor.

MatVenAddr: *Material Vendor's Address* is the contact address of the vendor.

MatVenCont: *Material Vendor's Contact* is the contact person of the vendor with whom the enterprise deals.

MatVenRatg: *Material Vendor's Rating* is the performance rating of the vendor.

---

32 MAT_PURCHASE_ORDER

Material Purchase Order is a purchase order sent out to a material vendor to procure one or more types of materials.

Primary Key Attributes

MatPONo: *Material Purchase Order Number* is the identification number assigned to each purchase order.

Non-key Attributes

MatVenCode: FK MATERIAL_VENDOR (31).

MatPODate: *Material Purchase Order Date* is the date on which the purchase order is issued.

MatDelDate: *Material Delivery Date* is the date on which the materials are delivered.

MatAvailPer: *Material Availability Period* is the production period for which the material is ordered.

---

33 MAT_PO_ITEM

Material Purchase Order Item is a line item on the MAT_PURCHASE_ORDER (32) providing the details of material ordered and the desired quantity.

Primary Key Attributes

MatPONo: FK MAT_PURCHASE_ORDER (32).

MatPOItemNo: *Material Purchase Order Item Number* is the serial number an item on the purchase order.

Non-key Attributes

MatCode: FK MATERIAL (22).

ColorCode: FK COLOR (81).

QualRepNo: FK QUALITY_REPORT (83).

MatOrdQty: *Ordered Material Quantity* is the quantity of material item ordered.

MatRecdQty: *Received Material Quantity* is the quantity of material finally received. This may be less than the ordered quantity if a part of the shipment is rejected during quality audit.

MatAccStat: *Material Acceptance Status* specifies whether the material has been accepted or rejected after the quality audit.

---

34 MATERIAL_VARIANT

Material Variant is a material of a specific color.

Primary Key Attributes

MatCode: FK CONSTR_MATERIAL (22).

ColorCode: FK COLOR (81).

Non-key Attributes

None

---

35 STORED_ITEM

Stored Item is a unit of received material that is stored in the material warehouse. This unit may be a bolt of fabric or a carton containing a specific quantity of a trim item.

Primary Key Attributes

MatLocIndex: FK MATERIAL_LOCATION (36).

StoItemNo: *Stored Item No* is a number identifying a stored item.

Non-key Attributes

MatPONo: FK MAT_PURCHASE_ORDER (32).

MatPOItemNo: FK MAT_PO_ITEM (33).

StoItOrigQty: *Original Stored Item Quantity* is the original quantity in the unit.

StoItRemQty: *Remaining Stored Item Quantity* is the currently available quantity in the unit.

StoItLocStat: *Stored Item's Location Status* is the code indicating the current location of the item. The item may be in warehouse or temporarily removed to the shopfloor.

StoItAssgCap: *Assigned Storage Capacity* is the storage capacity assigned to the item. Since the cartons may be of varied sizes, the capacity assigned to each may be different.

ProdOrdNo: FK PRODUCTION_ORDER(48).

---

36 MATERIAL_LOCATION

Material Location is the storage location for material batches in the raw materials warehouse. Each location is a rack. The racks are arranged in aisles.

Primary Key Attributes

MatLocIndex: *Material Location Index* is the identification code assigned to each storage location in the material warehouse.

Non-key Attributes

MLRowNo: *Material Location Row Number* is the aisle number of the storage location.

MLShelfNo: *Material Location Shelf Number* is the shelf number of the location.

MLType: *Material Location Type* specifies what kind of materials can be stored in the location. For example, cartons, fabric bolts, etc.

MLTotalCap: *Material Storage Location's Capacity* is the maximum storage capacity of that location.

---

37 TRIM

Trim is a generic name for pre-assembled fabric components such as pockets, waistbands, linings, etc.

Primary Key Attributes

MatCode: FK MATERIAL (22).

ColorCode: FK COLOR (81).

Non-key Attributes

TrimSize: *Trim Size* is the size of pocket, waistband, etc.

---

38 TK_TAG_LABEL

Tickets-Tags-Labels (TTL) are tickets, labels and hang-tags that are sewn, stapled or hung on the garments. These items provide information about the garments to the consumers.

Primary Key Attributes

MatCode: FK MATERIAL (22).

ColorCode: FK COLOR (81).

Non-key Attributes

TTLText: *Ticket-tag-label* is the content of the TTL item.

---

39 CLOSURE

Closures are items such as buttons, zippers, hooks, etc.

Primary Key Attributes

MatCode: FK MATERIAL (22).

ColorCode: FK COLOR (81).

Non-key Attributes

CloSize: *Closure Size* is the size of zipper, buttons, etc.

---

40 THREAD

Thread is the sewing thread used for assembling the garments.

Primary Key Attributes

MatCode: FK MATERIAL (22).

ColorCode: FK COLOR (81).

Non-key Attributes

ThrCount: *Thread Count* is the count of the thread item.

---

41 ACCESSORY

Accessories are items such as belts, buckles, hangers and poly-bags that go with the garment, but are not an integral part of it.

Primary Key Attributes

MatCode: FK MATERIAL (22).

ColorCode: FK COLOR (81).

Non-key Attributes

AccSize: *Accessory Size* is the size of belt, bag, etc.

---

42 PLANT

Plant is a manufacturing facility for cutting, sewing and finishing activities. A plant may perform any one or more of these activities.

Primary Key Attributes

PlantCode: *Plant Code* is the identification code assigned to each manufacturing plant.

Non-key Attributes

PlantLoc: *Plant location* is the place where the plant is located.

PlantType: *Plant Type* is a code indicating the type of the plant, e.g., sewing only, sewing & finishing, etc.

---

43 PLANT_CAPACITY

Plant capacity is the installed capacity of a plant to make a particular garment feature specified by CONSTR_FEATURE (18). For example, capacity per week to make dress trouser back pockets with buttoned flaps.

Primary Key Attributes

PlantCode: FK PLANT (42).

ConFeaCode: FK CONSTR_FEATURE (18).

Non-key Attributes

ConFeaCap: *Construction Feature Capacity* is the manufacturing capacity of the plant for a particular feature.

---

44 MASTER_SCH_ITEM

Master Schedule Item is a sales plan scheduled for production on the master schedule.

Primary Key Attributes

PlantCode: FK PLANT (42).

ProdPeriod: FK PLANT_CAPACITY (43).

PlanSeqNo: FK SALES_PLAN (45).

Non-key Attributes

AssngdCap: *Assigned Capacity* is the available capacity assigned to the sales plan.

---

45 SALES_PLAN

Sales Plan is an agreement with a customer for supplying garments of a particular style according to a delivery schedule desired by the customer. Although the tentative decision on fabric types is conveyed on a sales plan, the distribution of sizes is left for a latter time.

Primary Key Attributes

PlanPLANSeqNo: *Plan Sequence Number* is the serial number assigned to the sales plan.

Non-key Attributes

StyleNo: FK STYLE (1).

IrregStNo: FK IRREG_STYLE (95).

PlanDate: *Plan Date* is the date on which the plan is initiated.

PlanType: *Plan Type* is a code indicating whether the plan is a new plan or a rebuy order.

PlanStatus: *Plan Status* is a status attribute that is used to track the development of a sales plan.

---

46 PLAN_ITEM

Plan Item is a line item on a SALES_PLAN (45) specifying the quantity of garment units ordered for each fabric type.

Primary Key Attributes

PlanSeqNo: FK SALES_PLAN (45).

PlanCusLotNo: *Plan Customer Lot Number* is a lot number assigned by the customer to garments of each distinct fabric in the plan.

Non-key Attributes

MatCode: FK MATERIAL (22).

ColorCode: FK COLOR (81).

PlanItemQty: *Plan Item Quantity* is the quantity of the item ordered.

PlanItInstr: *Plan Item Special Instructions* are the special instructions about the item provided by the customer.

---

47 PLAN_DEL_SCHEDULE

Plan Delivery Schedule is a line item on a SALES_PLAN (45) specifying the dates by which certain quantities of goods are expected to be ready for delivery.

Primary Key Attributes

PlanSeqNo: FK SALES_PLAN (45).

DelSchItNo: *Delivery Schedule Item Number* is the serial number of the item on plan delivery schedule.

Non-key Attributes

PlanDelProp: *Plan Delivery Proportion* is the quantity of garments to be delivered, expressed as a fraction of the total quantity ordered.

PlanDelDate: *Plan Delivery Date* is the date by which the garments have to be ready for delivery.

---

48 PRODUCTION_ORDER

Production Order is an order issued to manufacturing plants to produce garments. Exact number, fabric type and size distribution are specified. Various other pieces of information required to determine what exactly is to be produced are also provided.

Primary Key Attributes

ProdOrdNo: *Production Order Number* is the serial number assigned to the production order.

Non-key Attributes

PlanSeqNo: FK SALES_PLAN (45).

QualRepNo: FK QUALITY_REPORT (83).

MarkerNo: FK MARKER (51).

PrOCutDate: *Production Order Cut date* is the date by which the fabric for the production order should be cut.

PrOReadyDate: *Production Order Ready Date* is the date by which the goods should be ready for delivery.

PrOScale: *Production Order Scale* is the multiplying factor for converting size scale ratios to actual quantities to be produced in each size.

PrOSpeInstr: *Production Order Special Instructions* are the instructions accompanying each order. For example, the order may instruct the cutting department to cut only the specified quantity, or to cut according to the available fabric length.

PrOrdStat: *Production Order Status* specifies the status of processing of the order. The status is updated after the completion of each processing phase. Cutting, sewing, finishing, Receiving in the warehouse and stocking are examples of processing phases through which the order goes.

---

49 SIZE_SCALE

Size Scale is the quantity of garments to be produced in a particular size. This quantity may be specified as a fraction of the total quantity mentioned on the production order.

Primary Key Attributes

ProdOrdNo: FK PRODUCTION_ORDER (48).

ProdFabItNo: FK PROD_ORDER_ITEM (50).

SizeCode: FK SIZE (7).

Non-key Attributes

SSProp: *Size Scale Proportion* is the relative quantity for a size in the size scale.

SSActProp: *Size Scale Actual Proportion* is the proportion achieved after actually cutting the fabric. This proportion may be different than desired if inexact quantity of fabric is cut.

---

50 PROD_ORDER_ITEM

Production Fabric is the fabric required for producing the garments specified on the PRODUCTION_ORDER (48). Each production order may require more than one fabric. The fabric is of a particular type, color and width as specified by FABRIC_LOT (28).

Primary Key Attributes

ProdOrdNo: FK PRODUCTION_ORDER (48).

ProdFabItNo: *Production Fabric Item Number* is the serial number of the fabric item on the order.

Non-key Attributes

PlanSeqNo: FK SALES_PLAN (45).

PlanCusLotNo: FK PLAN_ITEM (46).

POItQty: *ProductionOrder Item Quantity* is the number of garments to be produced for this item.

POItActQty: *Production Order Item Actual Quantity* is the quantity actually cut.

---

51 MARKER

Marker is an overlay for spread fabric which serves as a template for cutting.

Primary Key Attributes

MarkerNo: *Marker Number* is the identification number of the marker.

Non-key Attributes

MarkerWidth: *Marker Width* is the width of the marker.

---

52 SCALED_SECTION

Scaled Section is an arrangement of scaled pattern parts for one or more sizes of garments in a rectangle of a particular size. Scaled sections of same width can be combined to make a marker.

Primary Key Attributes

ScaSecNo: *Scaled Section Number* is the identification number assigned to each scaled section.

Non-key Attributes

ScaSecLen: *Scaled Section Length* is the length of the scaled section.

ScaSecWid: *Scaled Section Width* is the width of the scaled section.

ScaSecUtil: *Scaled Section Utilization* is the fabric utilization percentage of the section.

---

53 MARKER_SECTION

Marker Section is a line item on MARKER (51) specifying the relative position of a scaled section in a marker.

Primary Key Attributes

MarkerNo: FK MARKER (51).

ScaSecNo: FK SCALED_SECTION (52).

Non-key Attributes

None

---

54 SCALED_SEC_PART

Scaled Section Part is a graded pattern part that appears on a scaled section. Each scaled section part is located on the scaled section at a particular position and has a particular orientation.

Primary Key Attributes

ScaSecNo: FK SCALED_SECTION (52).

ScaGrpNo: FK SCALED_GROUP (72).

ScaSecParNo: *Scaled Section Part Number* is the identification number for the part in the section.

Non-key Attributes

BasPatNo: FK BASE_PATTERN (13).

RunNo: FK PATTERN (14).

PatParNo: FK PATTERN_PART (15).

SizeCode: FK SIZE (7).

SSPXCoord: *Scaled Section Part's X Coordinate* is the position of the part on the X axis of the section.

SSPYCoord: *Scaled Section Part's Y Coordinate* is the position of the part on the Y axis of the section.

SSPOrient: *Scaled Section Part's Orientation* is the orientation of the part relative to the section.

---

55 MANIFEST

Manifest is a collection of finished garment units belonging to a particular production order. These units are packed in cartons and stored together in the finished goods warehouse.

Primary Key Attributes

ManifestNo: *Manifest Number* is the identification number assigned to each manifest.

Non-key Attributes

ProdOrdNo: FK PRODUCTION_ORDER (48).

FGStoLocNo: FK FG_STORAGE_LOC (56).

---

56 FG_STORAGE_LOC

Finished Goods Storage Location is the location of finished goods in the finished goods warehouse. One or more manifests may be stored in one location. Each location is a rack located in an aisle in the warehouse.

Primary Key Attributes

FGStoLocNo: *Finished Goods Storage Location Number* is the identification number assigned to each storage location in the FG warehouse.

Non-key Attributes

FGStoRowNo: *Finished Goods Storage Row Number* is the aisle number of the location.

FGStoRacNo: *Finished Goods Storage Rack Number* is the rack number of the location.

FGStoCap: *Finished Goods Storage Capacity* is the maximum storage capacity of a location.

---

57 FG_CARTON

Finished Goods Carton is a carton containing a certain quantity of finished garments from a particular production order.

Primary Key Attributes

FGCartonNo: *Finished Goods Carton Number* is the identification number assigned to each carton.

Non-key Attributes

ManifestNo: FK MANIFEST (55).

FGCarQty: *Finished Goods Carton Quantity* is the quantity of garments in the carton.

FGCarGrade: *Finished Goods Carton Grade* is the quality grade of the garments in the carton.

FGCarLocStat: *Finished Goods Carton Location Status* specifies the location of the carton. The carton may be waiting to be stocked, in the storage area or temporarily removed to packing area.

ConsShOrdNo: FK CONS_SHIP_ORDER (101).

---

58 SHIPPING_ORDER

Shipping Order is an order sent by the customer to ship garments of a particular style to a location specified by the customer.

Primary Key Attributes

ShipOrdNo: *Shipping Order Number* is the serial number assigned to each shipping order received.

Non-key Attributes

CustomerCode: FK CUSTOMER (4).

ShipLocCode: FK SHIPPING_LOC (59).

ConsShOrdNo: FK CONS_SHIP_ORDER (101).

ShipOrdDate: *Shipping Order Date* is the date of issue of the order.

ShipDelDate: *Shipping Order Delivery Date* is the date by which the goods need to be delivered.

ShOrdInstr: *Shipping Order Instructions* are the instructions from the customer that accompany the order.

ShOrdStat: *Shipping Order Status* specifies the current status of processing of the shipping order. The status is updated at the end of each processing phase.

HoldPeriod: *Hold Period* is the length of time the packed goods should be held before shipping to the customer. It is specified by the customer.

---

59 SHIPPING_LOC

Shipping Location is a location where the customer may want the finished garments to be shipped. Typically, a customer will have many locations spread all over the country. A location could be a warehouse belonging to a customer or a consolidator, or a retail store.

Primary Key Attributes

CustomerCode: FK CUSTOMER (4).

ShipLocCode: *Shipping Location Code* is the identification code assigned to each shipping location specified by the customer.

Non-key Attributes

ShiplocType: *Shipping Location Type* is the type of the location, e.g., warehouse, retail store, consolidator, etc.

ShipLocAddr: *Shipping Location Address* is the address of the shipping location.

---

60 SHIP_ORDER_ITEM

Shipping Order Item is a line item on SHIPPING_ORDER (58) specifying quantity for each type of garment on the shipping order.

Primary Key Attributes

ShipOrdNo: FK SHIPPING_ORDER (58).

ShpOrdItNo: *Shipping Order Item Number* is the item number of garment item on the shipping order.

Non-key Attributes

PlanSeqNo: FK SALES_PLAN (45).

PlanCusLotNo: FK PLAN_ITEM (46).

SizeCode: FK SIZE (7).

ShOrdItQty: *Shipping Order Item Quantity* is the quantity of the garment item ordered.

---

61 DEPARTMENT

Department is a functional subdivision of a manufacturing plant. For example, a plant may have sewing and finishing departments.

Primary Key Attributes

PlantCode: FK PLANT (42).

DeptCode: *Department code* is the identification code assigned to each department.

Non-key Attributes

DeptName: *Department Name* is the descriptive name of the department.

---

62 WORKSTATION

Workstation is a single machine or a group of related machines used to perform unit manufacturing operations. A workstation has the flexibility to perform more than one operation, but at any given time, it is set to perform one particular operation.

Primary Key Attributes

WrkstnNo: *Workstation Number* is the identification number assigned to each workstation.

Non-key Attributes

EqGroupNo: FK EQUIP_GROUP (29).

WrkstnName: *Workstation Name* is the descriptive name for the workstation.

WrkstnLoc: *Workstation Location* is the location of the workstation on the shopfloor.

WrkstnStat: *Workstation Status* indicates whether the workstation is available for use or not.

---

63 WORKST_CAPABILITY

Workstation Capability is a construction operation that a particular workstation is capable of performing. This entity also gives the capacity of the workstation for this particular operation.

Primary Key Attributes

WrkstnNo: FK WORKSTATION (62).

OprnCode: FK OPERATION (107).

Non-key Attributes

WrkstnOpCap: *Workstation's Operation Capacity* is the capacity of the workstation in units per hour.

---

64 OPERATOR

Operator is the person responsible for operating the workstation to perform an operation.

Primary Key Attributes

OperatorNo: *Operator Number* is the identification number assigned to each operator.

Non-key Attributes

PlantCode: FK PLANT (42).

DeptCode: FK DEPARTMENT (61).

OpName: *Operator's Name* is the name of the operator.

JobCode: FK JOB (66).

---

65 OPERATOR_SKILL

Operator Skill is the skill and training level of the operator to perform a particular job. An operator may be skilled in one or more jobs and may be under training for a few more.

Primary Key Attributes

OperatorNo: FK OPERATOR (64).

OprnCode: FK OPERATION (107).

Non-key Attributes

OpTrReqDays: *Required Operator Training Days* specifies the number of days required to train for the job.

OpTrComDays: *Completed Operator Training Days* specifies the number of days of training completed.

OpEffGoal: *Operator Efficiency Goal* is the desired efficiency level at the end of training.

OpEffAttnd: *Attained Operator Efficiency* is the current level of efficiency of the operator on the job.

---

66 JOB

Job is a generic entity for a class of construction operations that have same level of complexity and require similar skills to perform.

Primary Key Attributes

JobCode: *Job Code* is the identification code assigned to each job.

Non-key Attributes

JobDescr: *Job Description* is the description of what the job entails.

JobGrade: *Job Grade* is the grade assigned to the job based on the level of skill required to perform it.

JobWgRate: *Job Wage Rate* is the wage rate associated with the job.

JobTrReq: *Job Training Requirement* is the description of training requirements for the job.

---

67 CUT_RM_SCHEDULE

Cutting Room Schedule is the production schedule for the cutting department. Productions orders scheduled for cutting in each production period are recorded here.

Primary Key Attributes

CRProdPeriod: *Cutting Room Production Period* is the period for which production is to be scheduled.

Non-key Attributes

CRSModDate: *CR Schedule Modification Date* is the date on which the schedule was last modified.

CRSModPer: *CR Schedule Modifying Person* is the person responsible for making the schedule change.

CRCapacity: *Cutting Room Capacity* is the maximum cutting capacity (in terms of number of pairs cut) for a production period.

---

68 CUT_RM_SCH_ITEM

Cutting Room Schedule Item is the line item on CUT_RM_SCHEDULE (67) specifying a production order scheduled for a particular period. More than one production order can be scheduled for each cutting period.

Primary Key Attributes

CRProdPeriod: FK CUT_RM_SCHEDULE (67).

ProdOrdNo: FK PRODUCTION_ORDER (48).

Non-key Attributes

CutStDate: *Cut Start Date* is the date on which work on the order is scheduled to begin in the cutting room.

CutExFinDate: *Cut's Expected Finish Date* is the date on which work on the order is expected to be finished.

CutAcFinDate: *Cut's Actual Finish Date* is the date on which the work is actually finished.

CutAssgndCap: *Assigned Cutting Capacity* is the part of the total cutting capacity that is assigned to this item.

---

69 CR_ASSIGNMENT

Cutting Room Assignment is an assignment of cutting room resources to perform an operation associated with a particular production order.

Primary Key Attributes

CRProdPeriod: FK CUT_RM_SCHEDULE (67).

ProdOrdNo: FK PRODUCTION_ORDER (48).

OprnCode: FK OPERATION (107).

Non-key Attributes

WrkstnNo: FK WORKSTATION (62).

SEmpCode: FK SAL_EMPLOYEE (94).

CRAsgStTime: *Cutting Room Assignment Starting Time* is the scheduled starting time of the operation.

CRAsgFinTime: *Cutting Room Assignment Finish Time* is the time by which the operation is to be completed.

CRAsgStat: *Cutting Assignment Status* is the completion status of a cutting assignment.

---

70 CR_OPER_ASSGNMT

Cutting Room Operator Assignment is the assignment of a particular operator to execute a cutting room assignment.

Primary Key Attributes

OperatorNo: FK OPERATOR (64).

OpAsgnmtNo: *Cutting Room Operator Assignment Number* is the identification number for each operator assignment.

Non-key Attributes

CRProdPeriod: FK CUT_RM_SCHEDULE (67).

ProdOrdNo: FK PRODUCTION_ORDER (48).

OprnCode: FK OPERATION (107).

CRWrkUnits: *Cutting Room Work Units* is the quantity of work performed.

CRWageErnd: *Cutting Room Wage Earned* is the wage earned for the work assignment.

---

71 TRANSPORTER

Transporter is a piece of material handling equipment, such as a conveyor, crane, forklift, etc.

Primary Key Attributes

TranspNo: *Transporter number* is the identification number of a transporter.

Non-key Attributes

EqGroupNo: FK EQUIP_GROUP (29).

TranspName: *Transporter Name* is the name of the transport equipment (e.g., electric cart).

TranspLoc: *Transporter Location* is the current location of the transporter.

TranspCap: *TransPorter Capacity* is the maximum load carrying capacity of a transporter.

TranspSpeed: *Transporter Speed* is the speed at which the transporter moves.

TransStat: *Transporter Status* is the availability status of a transporter.

---

72 SCALED_GROUP

Scaled Group is a collection of pattern part, on a marker section, that belong to the same garment. For example, a section may have parts for a size 36, a size 38 and two size 34 garments. This section would then have four groups of scaled parts on it.

Primary Key Attributes

ScaSecNo: FK SCALED_SECTION (52).

ScaGrpNo: *Scaled Group Number* is the identification number for each group on a section.

Non-key Attributes

None

---

73 ASSIGNED_OPER

Assigned Operator is the operator assigned to operate the equipment reserved for production of garments for an order.

Primary Key Attributes

OperatorNo: FK OPERATOR (64).

PlantCode: FK PLANT (42).

PlProdPeriod: FK PLANT_SCHEDULE (75).

ProdOrdNo: FK PRODUCTION_ORDER (48).

EqGroupNo: FK EQUIP_GROUP (29).

Non-key Attributes

AssgnOpStat: *Operator Assignment Status* is the completion status of the job assigned to the operator.

---

74 PROD_ORD_MAT

Production Order Material is a material that would be required for producing garments for a particular order.

Primary Key Attributes

ProdOrdNo: FK PRODUCTION_ORDER (48).

ProdMatNo: *Production Material Number* is the serial number for each material required to produce the garments for an order.

Non-key Attributes

MatCode: FK MATERIAL (22).

ColorCode: FK COLOR (81).

ProdMatQty: *Production Material Quantity* is the quantity of the material required for the order.

ProdMatDest: *Production Material Destination* is the location where the material will be used (cutting room, sewing plant, etc.).

---

75 PLANT_SCHEDULE

Plant Schedule is the production schedule for a manufacturing plant.

Primary Key Attributes

PlantCode: FK PLANT (42).

PlProdPeriod:*Plant Production Period* is the period for which the schedule is prepared.

Non-key Attributes

PPSModDate: *Plant Production Schedule Modification Date* is the date on which the schedule was last modified.

PPSModPer: *Plant Production Schedule Modifying Person* is the person who makes the modification.

PPSCap: *Plant Production Capacity* is the maximum production capacity of a plant for a production period. This is rough estimate given in terms of garment units per period.

---

76 PLANT_SCH_ITEM

Plant Schedule Item is a line item on PLANT_SCHEDULE (75) specifying the production order scheduled for a particular period. A single production order may be scheduled for more than a single period or more than one order may be scheduled for a single period.

Primary Key Attributes

PlantCode: FK PLANT (42).

PlProdPeriod: FK PLANT_SCHEDULE (75).

ProdOrdNo: FK PRODUCTION_ORDER (48).

Non-key Attributes

PSIStDate: *Plant Schedule Item Start Date* is the date on which work on the order is scheduled to begin.

PSIExFinDate: *Plant Production Schedule Item Expected Finish date* is the date on which the work is expected to be finished.

PSIAcFinDate: *Plant Production Schedule Item Actual Finish Date* is the date on which the work is actually finished.

PSIAssgndCap: *Assigned Plant Capacity* is the part of total capacity that has been reserved for production of this order.

---

77 ASSIGNED_EQUIP

Assigned Equipment is a group (line, module, etc.) that has been assigned to a production order.

Primary Key Attributes

PlantCode: FK PLANT (42).

PlProdPeriod: FK PLANT_SCHEDULE (75).

ProdOrdNo: FK PRODUCTION_ORDER (48).

EqGroupNo: FK EQUIP_GROUP (29).

Non-key Attributes

SEmpCode: FK SLA_EMPLOYEE (94).

EAssgStTime: *Equipment Assignment Start Time* is the time from when the equipment is reserved for this assignment.

EAssgFinTime: *Equipment Assignment Finish Time* is the time till when the equipment is reserved for this order.

EAssgStat: *Equipment Assignment Status* is the completion status of the assignment.

EAssgQty: *Equipment Assignment Quantity* is the number of garment units allocated for processing to the equipment group reserved for this assignment.

---

78 GARMENT_UNIT

Garment Unit is an individual garment produced by the enterprise.

Primary Key Attributes

ProdOrdNo: FK PRODUCTION_ORDER (48).

GarUnitNo: *Garment Unit Number* is the identification number assigned to every single garment unit produced.

Non-key Attributes

ManifestNo: FK MANIFEST (55).

FGCartonNo: FK FG_CARTON (57).

PlanSeqNo: FK SALES_PLAN (45).

PlanCusLotNo: FK PLAN_ITEM (46).

SizeCode: FK SIZE (7).

GarUnitGrade: *Garment Unit Grade* is the quality grade of a garment unit.

---

79 PLAN_MATERIAL

Plan Materials are the construction materials that are not same for all the garments in a style; The type depends on the color and type of fabric used. For example, buttons on a shirt are chosen according to the color of the fabric used.

Primary Key Attributes

PlanSeqNo: FK SALES_PLAN (45).

PlanCusLotNo: FK PLAN_ITEM (46).

PlanMatNo: *Plan Material Number* is the serial number of the fabric dependent material item in the plan.

Non-key Attributes

CDCode: FK CONSTR_DETAIL (3).

ConFeaCode: FK CONSTR_FEATURE (18).

CFMatNo: FK CONSTR_FT_MAT (21).

MatCode: FK MATERIAL (22).

ColorCode: FK COLOR (81).

---

80 WORK_ASSIGNMENT

Work Assignments are the process steps from the process plan that are performed on the assigned equipment for the production order.

Primary Key Attributes

WrkAssgNo: *Work Assignment Number* is the number that identifies each operation that is assigned to line or a module.

ProcPlanNo: FK PROCESS_PLAN (23).

ProcStepNo: FK PROCESS_STEP (24).

Non-key Attributes

PlantCode: FK PLANT (42).

PlProdPeriod: FK PLANT_SCHEDULE (75).

ProdOrdNo: FK PRODUCTION_ORDER (48).

EqGroupNo: FK EQUIP_GROUP (29).

WrkAssgUnits: *Work Assignment Units* are the count of repeats of a process steps performed on a line or a module.

---

81 COLOR

Color is the color of fabric and other materials used in the manufacture of garments.

Primary Key Attributes

ColorCode: *Color Code* is the code assigned to each distinct color in the color chart used by the enterprise. Each material, for which color is a useful attribute, is matched with the chart and assigned a color code.

Non-key Attributes

ColorBasic: *Color's Basic Description* is the descriptive name of the color, e.g., red.

ColorShade: *Color's Shade* is the descriptive name for the shade variant of the basic color, e.g., bright, light, pale, etc.

ColorR: *Color's Red Value* is one of the component values of the color, based on which the exact color can be re-created.

ColorB: *Color's Blue Value.*

ColorG: *Color's Green Value.*

---

82 QC_PROCEDURE

Quality Control Procedure is the description of the test or inspection procedure for carrying out quality control on fabric, materials or garments.

Primary Key Attributes

QCProcCode: *Quality Control Procedure Code* is the identification code assigned to each test and inspection procedure used in the enterprise.

Non-key Attributes

QCType: *Quality Control Procedure Type* indicates whether the procedure is for fabric, material or produced goods, and whether it is a test or an inspection procedure.

QCProcDescr: *Quality Control Procedure Description* is the description of how the procedure is performed.

QCSampStd: *QC Procedure Sampling Standard* gives the sample size for carrying out the procedure.

QCAccCrit: *QC Acceptance Criterion* is the criterion for acceptance of the item being tested.

QCSpeInstr: *QC Special Instructions* are the instructions accompanying each procedure. Special requirements of particular customers may be recorded here.

---

83 QUALITY_REPORT

Quality Report is a collection of the results of various quality control procedures performed on any item of interest.

Primary Key Attributes

QualRepNo: *Quality Report Number* is the identification number assigned to each quality report generated.

Non-key Attributes

QRResDescr: *QC Result Description* is the description of the conclusions of the quality procedures carried out on the tested item.

QRRecAction: *Recommended Quality Actions* describes the action recommended to on the tested item.

---

84 QUALITY_REP_ITEM

Quality Report Item is a line item on QUALITY_REPORT (83) containing the results of a particular quality procedure. This is a generic entity for one of many quality control test or inspection reports. For example, the QC report for recording the results of fabric inspection is different from that for garment inspection, but both are represented by the generic quality report item.

Primary Key Attributes

QualRepNo: FK QUALITY_REPORT (83).

QualRepItNo: *Quality Report Item Number* is the serial number of the report item in the quality report.

Non-key Attributes

QCProcCode: FK QC_PROCEDURE (82).

QCRepDate: *QC Report Date* is the date on which the QC procedure results are reported.

QCResult: *QC Result* is the result of the procedure carried out.

QCComment: *QC Comment* is the comment of the person in charge on the reported results.

Note

Entities 85 to 90 are examples of category entities of QUALITY_REP_ITEM (84). *The formats of these and other reports are not provided here because they are dependent on enterprises quality control requirements. Any reasonable format can be fitted into the framework presented here.*

85 FAB_INSP_REPORT

Fabric Inspection Report is a category entity for QUALITY_REP_ITEM (84).

86 FAB_TEST_REPORT

Fabric Test Report is a category entity for QUALITY_REP_ITEM (84).

87 MAT_INSP_REPORT

Material Inspection Report is a category entity for QUALITY_REP_ITEM (84).

88 MAT_TEST_REPORT

Material Testing Report is a category entity for QUALITY_REP_ITEM (84).

89 FG_AUDIT_REPORT

Finished Goods Audit Report is a category entity for QUALITY_REP_ITEM (84).

90 FG_TEST_REPORT

Finished Goods Test Report is a category entity for QUALITY_REP_ITEM (84)

91 SAM_DEPT_SCH

Sample Department Schedule is the production schedule for the sample making department.

Primary Key Attributes

SDProdPeriod: *Sample Department Production Period* is the period for which the schedule is prepared.

Non-key Attributes

SDProdCap: *Sample Department's Production Capacity* is the number of samples the sample department can produce during a planning period.

92 SAM_DEP_SCH_ITEM

Sample Department Schedule Item is a line item on SAM_DEPT_SCH (91) specifying a sample order scheduled for a particular period.

Primary Key Attributes

SDProdPeriod: FK SAM_DEPT_SCH (91).

SDSchItNo: *Sample Department Schedule Item Number* is the serial number of the item on the schedule.

Non-key Attributes

SreqNo: FK SAMPLE_REQ (8).

SDItStDate: *Sample Department Schedule Item Start Date* is the date on which production of samples is scheduled to begin.

SDItFinDate: *Sample Department Schedule Item Finish Date* is the date on which production is expected to finish.

SDActFinDate: *SD Actual Finish Date* is date on which samples are actually ready.

---

93 MATERIAL_SOURCE

Material Source is a supplier source from whom a particular material can be obtained.

Primary Key Attributes

MatCode: FK MATERIAL (22).

MatVenCode: FK MATERIAL_VENDOR (31).

Non-key Attributes

MatSouPrice: *Material Source's Price* is the price quoted by this source for a material.

MatSouRat: *Material Source Rating* is the rating of this vendor as the supplier for a material.

MatSouLead: *Material Source Lead Time* is the lead time for supplying a material.

MatSouCode: *Material Source's Item Code* is vendor's code for a material. This code is needed for ordering the material.

---

94 SAL_EMPLOYEE

Salaried Employee is an employee of the enterprise who is not paid on piece rate basis. Managers, supervisors and workers in certain jobs are examples of salaried employees.

Primary Key Attributes

SEmpCode: *Salaried Employee Code* is the identification code of an employee.

Non-key Attributes

PlantCode: FK PLANT (42).

DeptCode: FK DEPARTMENT (61).

SEmpName: *Salaried Employee's Name* is the name of the employee.

SEmpDesig: *Salaried Employee's Designation* is the designation of the employee, e.g., manager, pattern maker, etc.

---

95 IRREG_STYLE

Irregular Style is a style that is assigned to garments marked irregular. For example, a particular irregular style may identify men's dress trousers of irregular quality grade.

Primary Key Attributes

IrregStNo: *Irregular Style Number* is the identification number of the irregular style.

Non-key Attributes

IrregStDescr: *Irregular Style Description* is the description of the style type. For example, men's denim work trousers.

---

96 IRREG_FG_CARTON

Irregular Finished Goods Carton is a carton containing irregular garments. It is one of the categories of entity FG_CARTON (57).

Primary Key Attributes

FGCartonNo: FK FG_CARTON (57).

Non-key Attributes

IrregStNo: FK IRREG_STYLE (95).

---

97 REG_FG_CARTON

Regular Finished Goods Carton is a carton containing regular garments. A carton may only contain garments of same fabric type, color, size and quality grade. This entity is one of the categories of entity FG_CARTON (57).

Primary Key Attributes

FGCartonNo: FK FG_CARTON (57).

Non-key Attributes

PlanSeqNo: FK SALES_PLAN (45).

PlanCusLotNo: FK PLAN_ITEM (46).

SizeCode: FK SIZE (7).

---

98 SPREAD_SECTION

Spread Section is a section of a fabric spread from which fabric bundles are cut. Each spread section is over-laid by a marker section.

Primary Key Attributes

SpreadSecNo: *Spread Section Number* is a number identifying a section in the fabric spread.

ProdOrdNo: FK PRODUCTION_ORDER (48).

ProdFabItNo: FK PROD_ORDER_ITEM (50).

Non-key Attributes

MarkerNo: FK MARKER (51).

ScaSecNo: FK SCALED_SECTION (52).

SpFabLyrs: *Spread Fabric Layers* specifies the number of layers to be laid in the spread section.

SpFabActLyrs: *Spread Fabric Actual Layers* is the actual number of layers laid in the spread section. The actual number of layers may not be the same as the desired number because of fabric availability.

---

99 CUSTOMER_INQ

Customer Inquiry is an inquiry made by a customer to find out the status of an order. It includes all types of interactions between the enterprise and its customers. An inquiry is directed to a particular function area (e.g., customer service, distribution, sample making, etc.) in the enterprise.

Primary Key Attributes

CustInqNo: *Customer Inquiry Number* is the sequence number of the inquiry.

Non-key Attributes

CustomerCode: FK CUSTOMER (4).

CustInqRef: *Customer Inquiry Reference* is the identification code of the item that is the subject of the inquiry. The item could be a style, plan or a concept.

CustInqDate: *Customer Inquiry Date* is the date on which the inquiry is made.

CustInqDescr: *Customer Inquiry Description* is the description of the inquiry.

CustInqResp: *Customer Inquiry Response* is the response of the department to which the inquiry is addressed.

CustInqType: *Customer Inquiry Type* specifies the functional area to which the inquiry is addressed. For Example, sales contract, style development, etc.

---

100 GAR_SUBASSEMBLY

Garment Sub-assembly is a part of a garment being produced. Cut fabric parts are considered garment sub-assemblies.

Primary Key Attributes

ProdOrdNo: FK PRODUCTION_ORDER (48).

GarUnitNo: *Garment Unit Number* is a unique identification number assigned to each garment cut and assembled in a production order.

ProcStatCode: FK PROCESS_STATE (26).

Non-key Attributes

ScaSecNo: FK SCALED_SECTION (52).

ScaGrpNo: FK SCALED_GROUP (72).

GarSubLoc: *Garment Sub-assembly Location* is the current location of the sub-assembly in the production system.

---

101 CONS_SHIP_ORDER

Consolidated Shipping Order is an order prepared for packing by consolidating all the shipping orders for a given style. Retrieval of goods from warehouse and the subsequent packing operations are carried out for a consolidated order, and not for individual shipping orders.

Primary Key Attributes

ConsShOrdNo: *Consolidated Shipping Order Number* is the identification number for the consolidated order.

Non-key Attributes

ManifestNo: FK MANIFEST (55).

ConsShOrdNo: *Consolidated Shipping Order Status* is the completion status of a consolidated order.

---

102 PACK_SCHEDULE

Packing Schedule is the work schedule for the packing department.

Primary Key Attributes

PkSPeriod: *Packing Schedule Period* is the period for which packing orders are scheduled.

Non-key Attributes

PkSModDate: *Packing Schedule Modification Date* is the date on which the schedule was last modified.

PkSModPer: *Packing Schedule Modifying Person* is the person who makes the modification.

PkSCapacity: *Packing Schedule Capacity* is the maximum number of garment units that the distribution center can pack per period.

---

103 PACK_SCH_ITEM

Packing Schedule Item is a line item on PACK_SCHEDULE (102) specifying the consolidated shipping order to be processed.

Primary Key Attributes

PkSPeriod: FK PACK_SCHEDULE (102).

ConsShOrdNo: FK CONS_SHIP_ORDER (101).

Non-key Attributes

PkSIStDate: *Packing Schedule Item Start Date* is the date on which packing of the order is scheduled to begin.

PkSIExFnDate: *Packing Schedule Item Expected Finish Date* is the date on which the shipment is expected to be ready.

PkSIAcFnDate: *Packing Schedule Item Actual Finish date* is the date on which the shipment is actually ready.

PkSIAssgnCap: *Assigned Packing Capacity* is the packing capacity assigned to a consolidated order.

---

104 PACK_ASSIGNMENT

Packing Assignment is an assignment of resources to carry out a packing operation on a particular order.

Primary Key Attributes

PkSPeriod: FK PACK_SCHEDULE (102).

ConsShOrdNo: FK CONS_SHIP_ORDER (101).

OprnCode: FK OPERATION (107).

Non-key Attributes

WrkstnNo: FK WORKSTATION (62).

SEmpCode: FK SAL_EMPLOYEE (94).

PkOprnStTime: *Packing Operation Start Time* is the time at which the operation is scheduled to start.

PkOprnFnTime: *Packing Operation Finish Time* is the time at which the operation is expected to finish.

PkOprnStat: *Packing Operation Status* is the completion status of a packing operation.

---

105 PACK_OP_ASSGNMT

Packing Operator Assignment is the assignment of an operator to perform a packing operation.

Primary Key Attributes

OperatorNo: FK OPERATOR (64).

PkOpAssgNo: *Packing Operator Assignment No* is the serial number of the operator assignment.

Non-key Attributes

PkSPeriod: FK PACK_SCHEDULE (102).

PkSItemNo: FK PACK_SCH_ITEM (103).

OprnCode: FK OPERATION (107).

PkWrkUnits: *Packing Work Units* is the number of work units performed for the assignment.

PkWageErnd: *Packing Wage Earned* is the wage earned by the operator for the assignment.

---

106 PACK_OPERATION

Packing Operation is a basic operation performed in the packing department. For example, retrieving goods from storage location, picking, packing boxes, closing boxes, etc. Packing operation entity is one of the categories of entity OPERATION (107).

Primary Key Attributes

OprnCode: FK OPERATION (107).

Non-key Attributes

None

---

107 OPERATION

Operation represents a basic unit operation performed in the various function areas of the enterprise. Operation is a generic entity with category entities that represent specific operations (e.g., cutting room operations, construction operations, etc.).

Primary Key Attributes

OprnCode: *Operation Code* is the identification code assigned to each operation.

Non-key Attributes

JobCode: FK JOB (66).

OprnCatg: *Operation Category* is the specific category to which the operation belongs (e.g., packing).

OprnName: *Operation Name* is the descriptive name for the operation.

OprnDescr: *Operation Description* is the description of how the operation is performed.

OprnStdHrs: *Operation Standard Hours* is the time hours required to repeat the operation 99 times.

OprnCost: *Operation Cost* is the cost of performing the operation.

---

108 CR_OPERATION

Cutting Room Operation is a basic operation performed in the cutting room. For example, Spreading, cutting, etc. Cutting Room Operation is one of the categories of entity OPERATION (107).

Primary Key Attributes

OprnCode: FK OPERATION (107).

Non-key Attributes

None

---

109 STYLE_CONCEPT

Style Concept is the rough description (sketch, actual sample or textual description) from which a formal description, consisting of construction detail, pattern, fit and garde rules, is developed.

Primary Key Attributes

StyleConceptNo: *Style Concept Number* is the identification number of a style concept.

Non-key Attributes

CustomerCode: FK CUSTOMER (4).

StyleNo: FK STYLE (1).

StyConFile: *Style Concept File* is a reference to a file that contains the complete description of the concept.

StyConStat: *Style Concept Status* is the status attribute that is used to track the development of a concept.

---

110 PAT_GRADE_POINT

Pattern Grade Points are grade points marked on a particular pattern part. By displacing these points according to the grade rules, a pattern part can be reduced or enlarged for different garment sizes.

Primary Key Attributes

BasPatNo: FK BASE_PATTERN (13).

RunNo: FK PATTERN (14).

PatParNo: FK PATTERN_PART (15).

GraPointNo: FK GRADE_POINT (111).

Non-key Attributes

GPLocX: *Grade Point's X Coordinate* is the location coordinate of a grade point on a pattern.

GPLocY: *Grade Point's Y Coordinate* is the location/coordinate of a grade point on a pattern.

---

111 GRADE_POINT

Grade Points are points that are marked on a pattern and displaced according to the grade rules to obtain patterns for different sizes of garment. These points are referred to in the grade rules and marked on the pattern parts.

Primary Key Attributes

GraPointNo: *Grade Point Number* is the identification number of a grade point.

Non-key Attributes

None

---

112 SHIPPING_NOTICE

Shipping Notice is a notice sent by the enterprise to the customer, prior to shipping the garments ordered by the customer.

Primary Key Attributes

ShipNoticeNo: *Shipping Notice Number* is the serial number assigned to each shipping notice sent out.

ShipOrdNo: FK SHIPPING_ORDER (58).

Non-key Attributes

ShipOrdItNo: FK SHIP_ORDER_ITEM (60).

ShipItQty: *Shipping Item Quantity* is the quantity of the garment of a particular style that will be shipped to the customer.

---

113 SOURCE

Source is an external or internal source capable of carrying out specific operations for the manufacturing enterprise.

Primary Key Attribute

SourceCode: *Source Code* is the identification code assigned to each source, external or internal.

Non-key Attributes

OprnCode: FK OPERATION (107).

SourceName: *Source Name* is the name for the source.

SourceLoc: *Source Location* is the place where the source is located.

SourceLead: *Source Lead Time* is the lead time required by the source to complete a particular operation.

SourceRating: *Source Rating* is the rating of a source as an enabler of a particular operation.

---

114 OP_REPORT

Operation Report is a collection of reports on the performance of the various departments in an enterprise.

Primary Key Attribute

OpRepNo: *Operation Report Number* is the identification number assigned to each operation report generated.

---

115 OP_REP_ITEM

Operation Report Item is an item on OP_REPORT (114) containing the information pertaining to the performance of a particular department. This is a generic entity for one of many operation reports. For example, the operation report for cutting is different from that of sewing, but both are represented by the generic entity *Operation Report Item.*

Primary Key Attributes

OpRepNo: FK OP_REPORT (114).

OpRepItNo: *Operation Report Item Number* is the serial number of the report item in the operation report.

Non-key Attributes

OprnCode: FK OPERATION (107).

OpRepDate: *Operation Report Date* is the date on which the report was created.

OpRepItComment: *Operation Report Item Comment* is the comment of the person in charge of creating the report.

Section III

Table of entities and their attributes

TABLE OF ENTITIES AND THEIR ATTRIBUTES

ATTRIBUTE NAME	PK	FK	ATTR TYPE[1]	COMMENT
1 STYLE				
StyleNo	Y	N	C(10)	ID # assigned to the style
CDCode	N	Y	*	
BasPatNo	N	Y	*	
RunNo	N	Y	*	
FitNo	N	Y	*	
ProcPlanNo	N	Y	*	
StyCreDate	N	N	D	Style creation date
StyleStatus	N	N	C(4)	Completion status of the style
2 FIT				
FitNo	Y	N	N(9)	ID number for the fit
GraTabNo	N	Y	*	
MeasInstr	N	N	C(160)	Measuring instructions
FitStatus	N	N	C(4)	Completion status
3 CONSTR_DETAIL				
CDCode	Y	N	C(8)	Construction detail ID code
CDCreator	N	N	C(30)	Person who creates the construction detail
CDCreDate	N	N	D	Date on which construction detail is created
CDStatus	N	N	C(4)	Completion status
4 CUSTOMER				
CustomerCode	Y	N	C(8)	ID code for a customer
CustName	N	N	C(30)	Customer's name
CustAddr	N	N	C(160)	Customer's address
CustContact	N	N	C(80)	Customer's contact person
CustStdSpec	N	N	C(72)	Customer's standard garment specifications
5 SAM_PROD_ASSGNMT				
SDProdPeriod	Y	Y	*	
SDSchItNo	Y	Y	*	
SEmpCode	Y	Y	*	
6 FABRIC				
MatCode	Y	Y	*	
ColorCode	Y	Y	*	
FabWidth	N	N	N(3)	Fabric width

[1] Attribute type is Character, Numeric or Date (C, D, or N); * indicates attribute type defined in a parent entity.

7 SIZE

SizeCode	Y	N	C(8)	Size code of waist and inseam
Waist	N	N	N(2)	Measurement at the waist
Inseam	N	N	N(2)	Inseam measurement

8 SAMPLE_REQ

SReqNo	Y	N	N(9)	Log number of sample request
StyConceptNo	N	Y	*	
SReqDate	N	N	D	Sample request date
SDelDate	N	N	D	Sample delivery date
SActDelDate	N	N	D	Actual Delivery Date
SSpeInstr	N	N	C(240)	Special instructions for sample
SReqStat	N	N	C(4)	Completion status of request
QualRepNo	N	Y	*	

9 SAM_REQ_ITEM

SReqNo	Y	Y	*	
SReqItemNo	Y	N	N(3)	Item number on sample request
SizeCode	N	Y	*	
SamQty	N	N	N(3)	Quantity of units ordered
SReqItDescr	N	N	C(80)	Description of the item (fabric)

10 MEASUREMENT

FitNo	Y	Y	*	
SizeCode	Y	Y	*	
Seat	N	N	N(3,1)	Measurement at seat
Rise	N	N	N(3,1)	Measurement at the riser
Knee	N	N	N(3,1)	Measurement at knee
Bottom	N	N	N(3,1)	Measurement at bottom

11 GRADE_TABLE

GraTabNo	Y	N	N(6)	Grade Table Number
GraTabStatus	N	N	C(4)	Completion status

12 GRADE_RULE

GraTabNo	Y	Y	*	
GraPointNo	Y	Y	*	
SizeCode	Y	Y	*	Grade rule number for size
DisplX	N	N	N(3,1)	Displacement along X axis
DisplY	N	N	N(3,1)	Displacement along Y axis

13 BASE_PATTERN

BasPatNo	Y	N	C(4)	Base pattern number
BasPatDescr	N	N	C(80)	Base pattern description
BasPatStatus	N	N	C(4)	Completion status

14 PATTERN

BasPatNo	Y	Y	*	
RunNo	Y	N	N(4)	Base modification number
PatAvYard	N	N	N(4,1)	Average area for pattern
PatStatus	N	N	C(4)	Completion status

15 PATTERN_PART

BasPatNo	Y	Y	*	
RunNo	Y	Y	*	
PatParNo	Y	N	N(2)	ID for pattern part
PatParName	N	N	C(80)	Name of the pattern part
PatParShape	N	N	LCA[2]	Shape of the pattern part

16 GRAD_PAT_PART

BasPatNo	Y	Y	*	
RunNo	Y	Y	*	
PatParNo	Y	Y	*	
SizeCode	Y	Y	*	

17 CONSTR_DET_ITEM

CDCode	Y	Y	*	
ConFeaCode	Y	Y	*	
CDItDescr	N	N	C(80)	Description of the garment feature
CDItQty	N	N	N(6)	Quantity of the feature

18 CONSTR_FEATURE

ConFeaCode	Y	N	C(8)	Feature ID code
ConFeaType	N	N	C(80)	Construction feature type
ConFeaVar	N	N	C(80)	Construction feature variation
CFDescr	N	N	C(80)	Construction feature description

19 CONSTR_FT_ITEM

ConFeaCode	Y	Y	*	Construction feature code
OprnCode	Y	Y	*	
CFItQty	N	N	N(4)	Number of times operation is performed

---

[2] LCA: Line/Curve/Angle

20 CONSTR_OPR

OprnCode	Y	Y	*	Construction operation ID

21 CONSTR_FT_MAT

CDCode	Y	Y	*	
ConFeaCode	Y	Y	*	
CFMatNo	Y	N	N(9)	Serial number of material item
MatCode	N	Y	*	
MatQty	N	N	N(6)	Material quantity required

22 MATERIAL

MatCode	Y	N	C(8)	Construction material code
MatDescr	N	N	C(80)	Construction material description
MatUnit	N	N	C(6)	Units (yard, count, etc.)
MatCost	N	N	N(7,4)	Cost per unit

23 PROCESS_PLAN

ProcPlanNo	Y	N	N(8)	Process plan number

24 PROCESS_STEP

ProcPlanNo	Y	Y	*	
OprnCode	N	Y	*	
ProcStepNo	Y	N	N(5)	Sequence number of the operation
ProcStatCode	N	Y	*	

25 MASTER_SCHEDULE

ProdPeriod	Y	N	D	Week(s) for which production is scheduled

26 PROCESS_STATE

ProcStatCode	Y	N	C(4)	Code for a process state

27 PROC_INPUT_STAT

ProcPlanNo	Y	Y	*	
ProcStepNo	Y	Y	*	
ProcStatCode	Y	Y	*	

28 GARMENT_TYPE

PlanSeqNo	Y	Y	*	
PlanCusLotNo	Y	Y	*	
SizeCode	Y	Y	*	

29 EQUIP_GROUP

PlantCode	N	Y	*	
DeptCode	N	Y	*	
EqGroupNo	Y	N	N(3)	Line or module number
EqGroupFn	N	N	C(20)	Function (e.g. sewing, pressing, etc.)

30 BUFFER

BufferNo	Y	N	N(9)	ID number of a storage buffer
EqGroupNo	N	Y	*	
BufferLoc	N	N	C(50)	Location of the buffer
BufferCap	N	N	N(7)	Capacity of the buffer

31 MATERIAL_VENDOR

MatVenCode	Y	N	C(8)	Vendor code
MatVenName	N	N	C(30)	Material vendor's name
MatVenAddr	N	N	C(80)	Material vendor's address
MatVenCont	N	N	C(20)	Mat vendor's contact person
MatVenRatg	N	N	C(3)	Mat vendor's rating

32 MAT_PURCHASE_ORDER

MatPONo	Y	N	N(8)	Material PO number
MatVenCode	N	Y	*	
MatPODate	N	N	D	Material PO date
MatDelDate	N	N	D	Material delivery date
MatAvailPer	N	N	D	Period for which ordered

33 MAT_PO_ITEM

MatPONo	Y	Y	*	
MatPOItemNo	Y	N	N(8)	PO item number
MatCode	N	Y	*	
ColorCode	N	Y	*	
QualRepNo	N	Y	*	
MatOrdQty	N	N	N(6)	Material quantity
MatRecdQty	N	N	N(6)	Quantity actually received
MatAccStat	N	N	C(4)	Material Acceptance Status

34 MAT_VARIANT

MatCode	Y	Y	*	
MatType	N	N	C(15)	Category
ColorCode	Y	Y	*	

35 STORED_ITEM

StoItemNo	Y	N	N(3)	Storage item number
MatPONo	N	Y	*	
MatPOItemNo	N	Y	*	
MatLocIndex	Y	Y	*	
StoItOrigQty	N	N	N(6,2)	Received quantity of material
StoItRemQty	N	N	N(6,2)	Remaining quantity of material
StoItLocStat	N	N	C(4)	Location status of material batch
StoItAssgCap	N	N	N(7)	Capacity assigned to this item
ProdOrdNo	N	Y	*	

36 MATERIAL_LOCATION

MatLocIndex	Y	N	C(6)	Material location index
MLRowNo	N	N	N(3)	Row number in material warehouse
MLShelfNo	N	N	N(3)	Shelf number in material warehouse
MLTotalCap	N	N	N(7)	Total storage capacity
MLType	N	N	C(5)	Storage type (boxes, bolts, etc.)

37 TRIM

MatCode	Y	Y	*	
ColorCode	Y	Y	*	
TrimSize	N	N	N(3)	Size of pockets, waist-bands, etc.

38 TK_TAG_LABEL

MatCode	Y	Y	*	
ColorCode	Y	Y	*	
TTLText	N	N	C(160)	Text printed on TTL

39 CLOSURE

MatCode	Y	Y	*	
ColorCode	Y	Y	*	
CloSize	N	N	N(3)	Size of the zipper, etc.

40 THREAD

MatCode	Y	Y	*	
ColorCode	Y	Y	*	
ThrCount	N	N	N(3)	Count of the thread

41 ACCESSORY

MatCode	Y	Y	*	
ColorCode	Y	Y	*	
AccSize	N	N	N(3)	Size of belts, bags, etc.

42 PLANT

PlantCode	Y	N	C(8)	ID code assigned to a manuf. plant
PlantLoc	N	N	C(30)	Plant physical location
PlantType	N	N	C(15)	Plant type (e.g. sewing, finishing, etc.)

43 PLANT_CAPACITY

PlantCode	Y	Y	*	
ConFeaCode	Y	Y	*	
ConFeaCap	N	N	N(7)	Construction feature capacity

44 MASTER_SCH_ITEM

PlantCode	Y	Y	*	
ProdPeriod	Y	Y	*	
PlanSeqNo	Y	Y	*	
AssngdCap	N	N	N(7)	Capacity assigned to plan

45 SALES_PLAN

PlanSeqNo	Y	N	N(9)	Plan sequence number
StyleNo	N	Y	*	
IrregStNo	N	Y	*	
PlanDate	N	N	D	Initiation date of plan outline
PlanType	N	N	C(5)	Type (new or re-buy)
PlanStatus	N	N	C(4)	Plan status

46 PLAN_ITEM

PlanSeqNo	Y	Y	*	
PlanCusLotNo	Y	N	N(6)	Customer assigned lot for item
ColorCode	N	Y	*	
MatCode	N	Y	*	
PlanItemQty	N	N	N(5)	Quantity for each item on plan
PlanItInstr	N	N	C(150)	Special instructions for item

47 PLAN_DEL_SCHEDULE

PlanSeqNo	Y	Y	*	
DelSchItNo	Y	N	N(9)	Delivery schedule item number
PlanDelProp	N	N	N(0,4)	Delivery quantity as proportion of total
PlanDelDate	N	N	D	Delivery date

48 PRODUCTION_ORDER

ProdOrdNo	Y	N	N(9)	Production order (cut) number
PlanSeqNo	N	Y	*	
QualRepNo	N	Y	*	
MarkerNo	N	Y	*	
PrOCutDate	N	N	D	Cutting date for the Production Order
PrOReadyDate	N	N	D	Date the goods should be ready
PrOScale	N	N	N(3,2)	Scale factor for the order
PrOSpeInstr	N	N	C(150)	Special instructions for PO
PrOrdStat	N	N	C(4)	Progress status of PO

49 SIZE_SCALE

ProdOrdNo	Y	Y	*	
ProdFabItNo	Y	Y	*	
SizeCode	Y	Y	*	
SSProp	N	N	N(3,2)	Relative quantity for the size
SSActProp	N	N	N(3,2)	Proportion achieved after cutting fabric

50 PROD_ORDER_ITEM

ProdOrdNo	Y	Y	*	
ProdFabItNo	Y	N	N(6)	Item number for prod. fabric
PlanSeqNo	N	Y	*	
PlanCusLotNo	N	Y	*	
POItQty	N	N	N(6)	No. of units required
POItActQty	N	N	N(6)	No. of units actually cut
PFSpeInstr	N	N	C(150)	Special instruction for fabric

51 MARKER

MarkerNo	Y	N	N(9)	ID for the marker for the order
MarkerWidth	N	N	N(4,2)	Width of the marker

52 SCALED_SECTION

ScaSecNo	Y	N	N(9)	Scaled Section Number
ScaSecLen	N	N	N(4,2)	Scaled section length
ScaSecWid	N	N	N(4,2)	Scaled section width
ScaSecUtil	N	N	N(3)	Fabric utilization for section

53 MARKER_SECTION

MarkerNo	Y	Y	*
ScaSecNo	Y	Y	*

54 SCALED_SEC_PART

ScaSecNo	Y	Y	*	
ScaGrpNo	Y	Y	*	
ScaSecParNo	Y	N	N(9)	Scaled section part number
BasPatNo	N	Y	*	
RunNo	N	Y	*	
PatParNo	N	Y	*	
SizeCode	N	Y	*	
SSPXCoord	N	N	N(4,2)	X coordinate for the part in section
SSPYCoord	N	N	N(4,2)	Y coordinate for the part in section
SSPOrient	N	N	N(3,1)	Orientation angle of the part

55 MANIFEST

ManifestNo	Y	N	N(9)	Manifest number
ProdOrdNo	N	Y	*	
FGStoLocNo	N	Y	*	

56 FG_STORAGE_LOC

FGStoLocNo	Y	N	N(3)	Finished goods storage rack number
FGStoRowNo	N	N	N(3)	Aisle number of FG warehouse
FGStoRacNo	N	N	N(3)	Rack number in the aisle
FGStoCap	N	N	N(7)	Storage capacity

57 FG_CARTON

ManifestNo	N	Y	*	
FGCartonNo	Y	N	N(9)	FG carton number
FGCarQty	N	N	N(6)	Quantity in the carton
FGCarGrade	N	N	C(5)	Quality grade for the FG
FGCarLocStat	N	N	C(4)	FG carton location status
ConsShOrdNo	N	Y	*	

58 SHIPPING_ORDER

ShipOrdNo	Y	N	N(9)	Shipping order sequence number
CustomerCode	N	Y	*	
ShipLocCode	N	Y	*	
ConsShOrdNo	N	Y	*	
ShipOrdDate	N	N	D	Date of the order
ShOrdDelDate	N	N	D	Delivery date of the order
ShOrdInstr	N	N	C(150)	Instructions for the order
ShOrdStat	N	N	C(4)	Processing status of shipping order

59 SHIPPING_LOC

CustomerCode	Y	Y	*	
ShipLocCode	Y	N	C(8)	Shipping destination code
ShipLocType	N	N	C(15)	Type of location: Store, WH, etc.
ShipLocAddr	N	N	C(150)	Address of the location

60 SHIP_ORDER_ITEM

ShipOrdNo	Y	Y	*	
ShpOrdItNo	Y	N	N(9)	Shipping order item number
PlanSeqNo	N	Y	*	
PlanCusLotNo	N	Y	*	
SizeCode	N	Y	*	
ShOrdItQty	N	N	N(6)	Quantity of the item ordered

61 DEPARTMENT

PlantCode	Y	Y	*	
DeptCode	Y	N	C(8)	Department code
DeptName	N	N	C(20)	Name of the department

62 WORKSTATION

EqGroupNo	N	Y	*	
WrkstnNo	Y	N	N(9)	Workstation number
WrkstnName	N	N	C(30)	Workstation name
WrkstnLoc	N	N	C(50)	Physical location on shopfloor
WrkstnStat	N	N	C(4)	Operational status of work station

63 WRKST_CAPABILITY

WrkstnNo	Y	Y	*	
OprnCode	Y	Y	*	
WrkstnOpCap	N	N	N(7)	Capacity for the operation

64 OPERATOR

OperatorNo	Y	N	N(6)	Operator number
PlantCode	N	Y	*	
DeptCode	N	Y	*	
OpName	N	N	C(30)	Operator's name
JobCode	N	Y	*	

65 OPERATOR_SKILL

OperatorNo	Y	Y	*	
OprnCode	Y	Y	*	
OpTrReqDays	N	N	N(3)	Required training days for job
OpTrComDays	N	N	N(3)	Completed training days
OpEffGoal	N	N	N(2,2)	Efficiency goal
OpEffAttnd	N	N	N(2,2)	Attained efficiency

66 JOB

JobCode	Y	N	C(8)	ID code of a job
JobDescr	N	N	C(150)	Job description
JobGrade	N	N	C(2)	Grade based on skill required
JobWgRate	N	N	N(7,2)	Regular pay rate for job
JobTrReq	N	N	C(150)	Job training requirements

67 CUT_RM_SCHEDULE

CRProdPeriod	Y	N	D	Production period of the cutting room
CRSModDate	N	N	D	Date CR schedule was last modified
CRSModPer	N	N	C(30)	Person who modified the schedule
CRCapacity	N	N	N(7)	Capacity for the period

68 CUT_RM_SCH_ITEM

CRProdPeriod	Y	Y	*	
ProdOrdNo	Y	Y	*	
CutStDate	N	N	D	Starting date for cutting
CutExFinDate	N	N	D	Expected finish date
CutAcFinDate	N	N	D	Actual finish date
CutAssgndCap	N	N	N(7)	Assigned capacity

69 CR_ASSIGNMENT

CRProdPeriod	Y	Y	*	
ProdOrdNo	Y	Y	*	
OprnCode	Y	Y	*	
WrkstnNo	N	Y	*	
SEmpCode	N	Y	*	
CRAsgStTime	N	N	N(4)	Starting time for operation
CDAsgStat	N	N	C(4)	Assignment status
CRAsgFinTime	N	N	N(4)	Finishing time for operation

70 CR_OPER_ASSGNMT

OperatorNo	Y	Y	*	
OpAsgnmtNo	Y	N	N(9)	Operator assignment number
CRProdPeriod	N	Y	*	
ProdOrdNo	N	Y	*	
OprnCode	N	Y	*	
CRWrkUnits	N	N	N(7)	Units of work performed
CRWageErnd	N	N	N(5,2)	Wage earned

71 TRANSPORTER

TranspNo	Y	N	N(9)	ID number of transport equip.
EqGroupNo	N	Y	*	
TranspName	N	N	C(20)	Name of the transporter
TranspLoc	N	N	C(30)	Current location
TranspCap	N	N	N(7)	Capacity
TranspSpeed	N	N	N(3,2)	Speed
TranspStat	N	N	C(4)	Status

72 SCALED_GROUP

ScaSecNo	Y	Y	*	
ScaGrpNo	Y	N	N(9)	ID number for each group in a section

73 ASSIGNED_OPER

OperatorNo	Y	Y	*	
PlantCode	Y	Y	*	
PlProdPeriod	Y	Y	*	
ProdOrdNo	Y	Y	*	
EqGroupNo	Y	Y	*	
AssgOpStat	N	N	C(4)	Status of assigned operation (busy, etc.)

74 PROD_ORD_MAT

ProdOrdNo	Y	Y	*	
ProdMatNo	Y	N	N(9)	Serial number for material required
MatCode	N	Y	*	
ColorCode	N	Y	*	
ProdMatQty	N	N	N(5)	Quantity of the item
ProdMatDest	N	N	C(30)	Destination of production material

75 PLANT_SCHEDULE

PlantCode	Y	Y	*	
PlProdPeriod	Y	N	D	Plant's production period
PPSModDate	N	N	D	Date of last modification
PPSModPer	N	N	C(30)	Person who made the modified
PPSCap	N	N	N(7)	Production capacity for period

76 PLANT_SCH_ITEM

PlantCode	Y	Y	*	
PlProdPeriod	Y	Y	*	
ProdOrdNo	Y	Y	*	
PSIStDate	N	N	D	Starting date
PSIExFinDate	N	N	D	Expected finish date
PSIAcFinDate	N	N	D	Actual finish date
PSIAssgndCap	N	N	N(7)	Capacity assigned to this item

77 ASSIGNED_EQUIP

PlantCode	Y	Y	*	
PlProdPeriod	Y	Y	*	
ProdOrdNo	Y	Y	*	
EqGroupNo	Y	Y	*	
SEmpCode	N	Y	*	
EAssgStTime	N	N	N(4)	Time from which equip. reserved
EAssgFinTime	N	N	N(4)	Time till equipment reserved
EAssgStat	N	N	C(4)	Completion status of assignment
EAssgQty	N	N	N(5)	# of units of work assigned

78 GARMENT_UNIT

ProdOrdNo	Y	Y	*	
GarUnitNo	Y	N	N(9)	Garment stock unit number
FGCartonNo	N	Y	*	
PlanSeqNo	N	Y	*	
PlanCusLotNo	N	Y	*	
SizeCode	N	Y	*	
GarUnitGrade	N	N	C(4)	Quality grade for the garment

79 PLAN_MATERIAL

PlanSeqNo	Y	Y	*	
PlanCusLotNo	Y	Y	*	
PlanMatNo	Y	N	N(9)	Plan specific material for style
CDCode	N	Y	*	
ConFeaCode	N	Y	*	
CFMatNo	N	Y	*	
MatCode	N	Y	*	
ColorCode	N	Y	*	

80 WORK_ASSIGNMENT

WrkAssgNo	Y	N	N(9)	ID # of ea. op. assigned to line/module
ProcPlanNo	Y	Y	*	
ProcStepNo	Y	Y	*	
PlantCode	N	Y	*	
PlProdPeriod	N	Y	*	
ProdOrdNo	N	Y	*	
EqGroupNo	N	Y	*	
WrkAssgUnits	N	N	N(4)	Number of units done

81 COLOR

ColorCode	Y	N	C(8)	Color code
ColorBasic	N	N	C(30)	Descriptive name for the color
ColorShade	N	N	C(4)	Shade variant of the color
ColorR	N	N	N(8)	Red component
ColorG	N	N	N(8)	Green
ColorB	N	N	N(8)	Blue

82 QC_PROCEDURE

QCProcCode	Y	N	C(8)	QC procedure number
QCType	N	N	C(20)	Test, inspection, etc.
QCProcDescr	N	N	C(150)	Description of the procedure
QCSampStd	N	N	N(5)	Sampling standard for QC
QCAccCrit	N	N	C(20)	Acceptance criterion
QCSpeInstr	N	N	C(150)	Instructions for QC

83 QUALITY_REPORT

QualRepNo	Y	N	N(9)	Quality report number
QRResDescr	N	N	C(80)	Description of audit results
QRRecAction	N	N	C(50)	Recommended action on item

84 QUALITY_REP_ITEM

QualRepNo	Y	Y	*	
QualRepItNo	Y	N	N(9)	Report item number
QCProcCode	N	Y	*	
QCRepDate	N	N	D	Date of preparing report
QCResult	N	N	C(8)	Result (accept/reject) of the procedure
QCComment	N	N	C(150)	Comment on the test results

85 FAB_INSP_REPORT

QualRepNo	Y	Y	*
QualRepItNo	Y	Y	*

86 FAB_TEST_REPORT

QualRepNo	Y	Y	*
QualRepItNo	Y	Y	*

87 MAT_INSP_REPORT

QualRepNo	Y	Y	*
QualRepItNo	Y	Y	*

88 MAT_TEST_REPORT

QualRepNo	Y	Y	*
QualRepItNo	Y	Y	*

89 FG_AUDIT_REPORT

QualRepNo	Y	Y	*
QualRepItNo	Y	Y	*

90 FG_TEST_REPORT

QualRepNo	Y	Y	*	
QualRepItNo	Y	Y	*	

91 SAM_DEPT_SCH

SDProdPeriod	Y	N	D	Schedule preparation period
SDProdCap	N	N	N(7)	Production capacity

92 SAM_DEPT_SCH_ITEM

SDProdPeriod	Y	Y	*	
SDSchItNo	Y	N	N(3)	Schedule item number
SReqNo	N	Y	*	
SDItStDate	N	N	D	Starting date for the item
SDItFinDate	N	N	D	Projected finish date
SDActFinDate	N	N	D	Actual finish date
SDAssgnType	N	N	C(8)	Cutting, sewing, etc.

93 MATERIAL_SOURCE

MatCode	Y	Y	*	
MatVenCode	Y	Y	*	
MatSouPrice	N	N	N(7,2)	Price per unit from this vendor
MatSouRat	N	N	C(4)	Quality rating
MatSouLead	N	N	N(4)	Lead time
MatSouItCode	N	N	C(8)	Vendor's code for material

94 SAL_EMPLOYEE

SEmpCode	Y	N	C(8)	Employee code
PlantCode	N	Y	*	
DeptCode	N	Y	*	
SEmpName	N	N	C(30)	Employee's name
SEmpDesig	N	N	C(25)	Employee's designation

95 IRREG_STYLE

IrregStNo	Y	N	N(9)	Irregular style number
IrregStDescr	N	N	C(150)	Irregular style description

96 IRREG_FG_CARTON

FGCartonNo	Y	Y	*	
IrregStNo	N	Y	*	

97 REG_FG_CARTON

FGCartonNo	Y	Y	*	
PlanSeqNo	N	Y	*	
PlanCusLotNo	N	Y	*	
SizeCode	N	Y	*	

98 SPREAD_SECTION

ProdOrdNo	Y	Y	*	
SpreadSecNo	Y	N	N(9)	Spread section number
ProdFabItNo	Y	Y	*	
SpFabLyrs	N	N	N(3)	No. of layers to be spread
SpFabActLyrs	N	N	N(3)	Actual spread layers
MarkerNo	N	Y	*	
ScaSecNo	N	Y	*	

99 CUSTOMER_INQ

CustInqNo	Y	N	N(9)	Customer inquiry number
CustomerCode	N	Y	*	
CustInqDate	N	N	D	Date of inquiry
CustInqDescr	N	N	D	Description of inquiry
CustInqResp	N	N	C(150)	Description of the response
CustInqType	N	N	C(10)	Type of inquiry
CustInqStat	N	N	C(4)	Processing status of inquiry
CustInqRef	N	N	N(9)	Ref. # for style, plan, etc.

100 GAR_SUBASSEMBLY

ProdOrdNo	Y	Y	*	
GarUnitNo	Y	Y	*	
ProcStatCode	Y	Y	*	
ScaSecNo	N	Y	*	
ScaGrpNo	N	Y	*	
GarSubLoc	N	N	C(20)	Physical location of the sub-assembly

101 CONS_SHIP_ORDER

ConsShOrdNo	Y	N	N(9)	Consolidated shipping order. no.
ManifestNo	N	Y	*	
CShOrdStat	N	N	C(4)	Status of consolidated ship. order

102 PACK_SCHEDULE

PkSPeriod	Y	N	D	Packing schedule period
PkSModDate	N	N	D	Date of last modification
PkSCapacity	N	N	N(7)	Packing capacity for the period
PkSModPer	N	N	C(30)	Person who made the modification

103 PACK_SCH_ITEM

PkSPeriod	Y	Y	*	
ConsShOrdNo	Y	Y	*	
PkSIStDate	N	N	D	Starting date for packing
PkSIExFnDate	N	N	D	Expected finish date
PkSIAcFnDate	N	N	D	Actual finish date
PkSIAssgnCap	N	N	N(7)	Capacity assigned to this item

104 PACK_ASSIGNMENT

PkSPeriod	Y	Y	*	
ConsShOrdNo	Y	Y	*	
OprnCode	Y	Y	*	
WrkstnNo	N	Y	*	
SEmpCode	N	Y	*	
PkOprnStTime	N	N	N(4)	Starting time
PkOprnFnTime	N	N	N(4)	Finish time
PkOprnStat	N	N	C(4)	Current status of the assignment

105 PACK_OP_ASSGNMT

OperatorNo	Y	Y	*	
PkOpAssgNo	Y	N	N(9)	Packing operation assignment no.
PkSPeriod	N	Y	*	
ConsShOrdNo	N	Y	*	
OprnCode	N	Y	*	
PkWrkUnits	N	N	N(5)	Packing work units performed
PkWageErnd	N	N	N(5,2)	Wage earned

106 PACK_OPERATION

OprnCode	Y	Y	*	Packing operation code

107 OPERATION

OprnCode	Y	N	C(8)	Operation ID code
JobCode	N	Y	*	
OprnCatg	N	N	C(8)	Operation category (sew, pack, etc.)
OprnName	N	N	C(15)	Name of the operation
OprnDescr	N	N	C(150)	Description
OprnStdHrs	N	N	N(3)	Standard hours
OprnCost	N	N	N(7,2)	Operation cost

108 CR_OPERATION

OprnCode	Y	Y	*

109 STYLE_CONCEPT

CustomerCode	N	Y	*	
StyConceptNo	Y	N	N(9)	Design concept number
StyleNo	N	Y	*	
StyConFile	N	N	C(80)	File containing details of concept
StyConStat	N	N	C(4)	Status of the style concept

110 PAT_GRADE_POINT

GraPointNo	Y	Y	*	
BasPatNo	Y	Y	*	
RunNo	Y	Y	*	
PatParNo	Y	Y	*	
GPLocX	N	N	N(4,1)	X coordinate of the point
GPLocY	N	N	N(4,1)	Y coordinate of the point

111 GRADE_POINT

GraPointNo	Y	N	N(3)	ID number of a grade point

112 SHIPPING_NOTICE

ShipNoticeNo	Y	N	N(9)	Shipping notice sequence number
ShipOrdNo	Y	Y	*	
ShipOrdItNo	N	Y	*	
ShipItQty	N	N	N(6)	Quantity of item shipped

113 SOURCE

SourceCode	Y	N	C(8)	ID code for a source
OprnCode	N	Y	*	
SourceName	N	N	C(80)	Source's name
SourceLoc	N	N	C(100)	Source's location
SourceLead	N	N	N(4)	Lead time required by source
SourceRating	N	N	C(3)	Rating of source for a specific operation

114 OP_REPORT

OpRepNo	Y	N	N(9)	Operation report serial number

115 OP_REP_ITEM

OpRepNo	Y	Y	*	
OpRepItNo	Y	N	N(9)	Operation report item sequence number
OprnCode	N	Y	*	
OpRepDate	N	N	D	Date on which op. item report was created
OpRepItComment	N	N	C(100)	Comment of person creating report